The State of Hawai`i

PANDEMIC INFLUENZA PREPAREDNESS & RESPONSE PLAN

December 2005
Version 05.2

Pandemic Influenza Preparedness & Response Working Group

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i. PREFACE

The Hawai`i State Department of Health (HDOH) is the State agency charged with leading the medical and public health response to disasters. The following Pandemic Influenza Preparedness & Response Plan provides guidance for coordinating medical and public health activities that need to be executed to respond to a potential pandemic. As the pandemic escalates, the government's response will likely need to expand to include support from agencies with responsibilities outside of medicine and public health. When this occurs, the HDOH will coordinate all medical and public health activities through the State Civil Defense under the direction of the Governor.

The plan is organized into seven major activities as follows:

1. Command and Control
2. Influenza Surveillance
3. Pandemic Influenza Vaccines
4. Antiviral Medications
5. Isolation and Quarantine
6. Health Care Delivery
7. Communications

The Hawai`i Pandemic Influenza Preparedness & Response Plan is intended to assist partner agencies in State, County, and the private sector with the coordination and integration of resources required to efficiently respond to an influenza pandemic. To be successful, the planning effort requires the HDOH to work with partner agencies to identify skilled people, equipment, facilities, resources, and processes needed to identify and treat infected individuals as well as mitigate transmission of the pandemic virus in the community. Response contingency plans also need to encompass efforts to procure, distribute, secure, and dispense medications and/or vaccines to the public.

Through education, training, exercises, procurement of necessary materials, and timely communication, the HDOH will strive to reduce morbidity and mortality among Hawai`i's residents and visitors and minimize societal disruption. Towards that end, this plan should be viewed as a 'living document' that should be re-assessed and revised frequently in response to additional information about a specific pandemic threat and currently available countermeasures.

ii. INTRODUCTION

I. PURPOSE

A. This plan describes policies and procedures for interagency cooperation, incident command and control, disease surveillance, vaccine and antiviral medication distribution, health care delivery, social distancing and communications activities that will be implemented in response to the threat of an influenza pandemic.

B. If confronted with an influenza pandemic, the priorities of the HDOH will be to assure continuity of essential public health services while providing assistance to meet the emergency needs of the affected population.

II. SCOPE

This plan provides operational and logistical guidance for planning and coordinating a statewide response and/or recovery effort to manage a major public health event involving an influenza pandemic. It also defines the roles and responsibilities to those primary and secondary State, County, and private agencies that may be called upon to support this response.

III. BACKGROUND

The influenza (flu) epidemics that occur nearly every year are important events. Influenza is a respiratory illness that to which hundreds of thousands of people succumb each year. The illness can cause severe health problems for the elderly and the very young and those with chronic diseases, such as diabetes or heart, lung, or other immunocompromising disease. Duration of typical primary influenza illness is about one week and is characterized by an abrupt onset of fever, muscle aches, sore throat, and nonproductive cough. In some persons, severe malaise and cough can persist for several days or weeks.

One of the most important features about influenza viruses is that their structure changes slightly but frequently over time (a process known as “drift”), and that this process results in the appearance of different strains of influenza that circulate each year. The composition of the influenza vaccine is changed annually to help protect people from the influenza virus strains expected to be most commonly circulating during the coming influenza season.

In contrast to the more gradual process of drift, a pandemic influenza virus represents a unique public health emergency and community disaster. The influenza virus changes dramatically and unexpectedly through a process known as “shift.” Shift results in the appearance of a novel influenza virus to which few (if any) people are immune. There may be little warning, but experts believe that there will be one to six months between identification of a novel virus and widespread outbreaks in the United States. If this new virus were to spread easily from person to person, it could quickly travel around the world and affect millions

of people as it caused serious illness and death.

There is no simple answer to the question of how serious a pandemic might be. The impact of the pandemic will depend upon the virulence (severity) of the virus, the rapidity of its spread or transmission, and the effectiveness of pandemic prevention and response efforts. The 1918 Spanish flu is an example of a worst-case scenario with a highly contagious and deadly strain. This pandemic killed more Americans than all the wars of the 20th century. Since our world today is more densely populated and people travel the globe with ease, the spread of a next pandemic could be more rapid and perhaps more devastating than previous ones.

IV. ASSUMPTIONS

A. As with previous disease outbreaks that threatened the nation, the Federal government will be responsible for nationwide coordination of the pandemic influenza response. Specific areas of Federal responsibility include:

1. Encouraging and facilitating vaccine research
2. Coordinating national and international surveillance
3. Assessing and potentially enhancing national stocks of vaccines and antiviral or other medications
4. Coordinating public sector procurement of vaccines and antiviral or other medications
5. Assessing the need for and scope of a suitable liability program for vaccine manufacturers and persons administering the vaccine
6. Developing a national "clearinghouse" for vaccine availability information, vaccine distribution, and redistribution
7. Developing an adverse events surveillance system at the national level
8. Developing a central (national) information database/clearinghouse on the internet
9. Developing "generic" guidelines and/or "information templates" that can be modified and/or adapted as needed at the State and local levels, including:

    a. "Fact sheets"/Q&As on influenza, influenza vaccine, and antiviral agents
    b. Strategies and guidelines for interacting with the media and communicating effectively with public health and medical communities and the general public
    c. Guidelines for triage and treatment of influenza patients in outpatient, inpatient, and non-traditional medical care settings
    d. Guidelines for setting up and operating mass vaccination programs
    e. Guidelines for distribution and use of antiviral agents
    f. Guidelines for the potential use of "traditional" or "generic" public health measures such as the use of masks, isolation precautions, and temporary closures of schools and large businesses to curtail

transmission.

B. The HDOH will be the lead State agency to coordinate the medical and public health response in the State during an influenza pandemic.[1] General responsibilities include:

1. Coordinating State surveillance for influenza and other respiratory illnesses
2. Coordinating with Federal, State, and local partners to identify, acquire, store, secure, allocate, and distribute antiviral medications and/or pandemic influenza virus-specific vaccine should either be available and as necessary
3. Recommending and implementing measures for disease containment and control
4. Coordinating with State and local partners to facilitate health care delivery
5. Ensuring timely and appropriate communication with Federal, State, and local partners as well as communications with health care providers and lay public.

C. For the purposes of consistency and coordination between National, State, and local planning and response efforts, pandemic "phases" will be declared by the Federal government using World Health Organization (WHO) criteria as follows:

Interpandemic Period

Phase 1: Risk of human infection with animal virus is considered low
Phase 2: Animal virus poses threat

Pandemic Alert Period

Phase 3: Human infection with new subtype but minimal human-to-human transmission
Phase 4: Small clusters of human-to-human transmission, highly localized
Phase 5: Larger clusters of human-to-human transmission, but still highly localized

Pandemic Period

Phase 6: Increased and sustained transmission in the general population

Postpandemic Period: Return to interpandemic period

Refer to the table on page xii for further details.

[1] The National Response Plan outlines Emergency Support Functions (ESFs) to assign the necessary planning, support, resources, program implementation, and emergency services to the appropriate agencies. Just as the U.S. Department of Health and Human Services at the Federal level, the HDOH at the State level has the primary responsibility for implementing ESF #8: Public Health and Medical Services.

D. Because of the substantial lead time required for vaccine production once a novel strain has been identified, it is likely that vaccine will not be available, especially during the early phases of the pandemic, and when available, may be in limited supply.

E. Liability protection for vaccine manufacturers and persons who administer vaccine is a national issue and may need to be addressed by development of new legislation at the Federal and/or State level.

F. At the present time, very limited resources have been made available from the Federal government for purposes of State and local plan development. Based on past history, resources can be expected to be made available from the national level for plan implementation, although the level and nature of such resources have not been determined. Aside from new legislation specifically earmarked for planning, response, and mitigation, possibilities include:

1. Federal contracts for the purchase of influenza vaccine
2. Federal grants and/or reimbursement for vaccine distribution and administration
3. Federal purchase of at least some antiviral agents
4. Federal grants for enhanced surveillance
5. Release of Federal funds under the National Response Plan (Stafford Act; Public Law 93-288, as amended), as is done for other natural disasters (NOTE: criteria to be used for the release of funds have not yet been determined)

G. Hawai`i's visitor to resident ratio presents a unique planning and logistical challenge as compared to other states with proportionally smaller visitor industries.

H. Given Hawai`i's geographic separation from the continental United States and available Federal resources, it is prudent for the State to plan for the provision of State resources at the time of the pandemic, including temporary redirection of personnel and financial resources from other programs as needed and until additional Federal support is made available.

iii. WORLD HEALTH ORGANIZATION PANDEMIC INFLUENZA PHASES

HAWAII STATE DEPARTMENT OF HEALTH

WHO Pandemic Influenza Phases

May 2005.[2]

Pandemic Phases	Overarching Goals
Interpandemic period. **Phase 1.** No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals. If present in animals, the risk of human infection or disease is considered to be low.	Strengthen influenza pandemic preparedness at the global, regional, national, and subnational levels.
Phase 2. No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk of human disease.	Minimize the risk of transmission to humans; detect and report such transmission rapidly.
Pandemic alert period. **Phase 3.** Human infection(s) with a new subtype, but no human-to-human spread, or at most, rare instances of spread to a close contact.	Ensure rapid characterization of the new virus subtype and early detection, notification, and response to additional cases.
Phase 4. Small cluster(s) with limited human-to-human transmission, but spread is highly localized, suggesting that the virus is not well adapted to humans.	Contain the new virus within limited foci or delay spread to gain time to implement preparedness measures, including vaccine development.
Phase 5. Larger cluster(s) but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk).	Maximize efforts to contain or delay spread, to possibly avert a pandemic, and to gain time to implement pandemic response measures.
Pandemic period. **Phase 6.** Pandemic phase: increased and sustained transmission in general population.	Minimize the impact of the pandemic.
Postpandemic period. Return to interpandemic period.	

[2] WHO. WHO Global Influenza Preparedness Plan. Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_5.pdf. Accessed 13 Jun 2005.

iv. HAWAI`I PANDEMIC INFLUENZA PREPAREDNESS & RESPONSE PLAN AT-A-GLANCE

Component Activity	Interpandemic Period		Pandemic Alert Period			Pandemic Period	Post-pandemic Period
	Phase 1 Minimal or no risk	Phase 2 Animal virus with potential human risk circulating	Phase 3 Novel (Human) Virus Alert	Phase 4 Highly localized, small infection clusters; limited human-to-human infection	Phase 5 Large infection clusters but only localized human-to-human infection	Phase 6 Sustained, widespread transmission	Return to Interpandemic Period
Command and Control	Establish and clarify HDOH's authority during a pandemic.		Activate the HDOH Department Operations Center (DOC). HDOH DOC may be activated in part or full at any time depending upon events in Hawai`i, but the DOC is expected to be fully activated during Phase 6.				HDOH DOC will gradually stand down.
	Identify contacts in and establish liaisons between HDOH and partner agencies.		Activate surge capacity for epidemiology, laboratory, and health care delivery as necessary to facilitate medical and public health response.				Evaluate DOC operations and actions.
	Establish roles and responsibilities of HDOH and partner agencies during a pandemic, and identify personnel in all areas for surge capacity.		Ensure liaison is established with State Civil Defense Emergency Operations Center (EOC), when activated.				Modify DOC protocol as necessary to improve effectiveness.
	Train HDOH personnel in ICS and NIMS.						
	Conduct exercises/tabletops to prepare HDOH and partner agencies and to identify and address any deficiencies.						
Influenza Surveillance	Conduct routine sentinel influenza surveillance and continue to recruit sentinel physicians.		Fully implement enhanced surveillance to target patients who meet criteria for highly suspect infection with pandemic influenza and to ensure identification of novel virus as soon as it appears in Hawai`i.			Maintain all enhanced surveillance activities to extent feasible.	Evaluate resources (people and supplies) to determine surveillance capacity.
	Continue year-round influenza surveillance.		Conduct active surveillance for severe respiratory illness and unexplained deaths by regularly contacting health care facilities and the Medical Examiner; investigate these illnesses to determine etiology.			Monitor capacity and usefulness of activities to determine point at which to narrow and focus surveillance.	Continue limited enhanced surveillance until certain that transmission has ceased.

Component Activity	Interpandemic Period		Pandemic Alert Period			Pandemic Period	Post-pandemic Period
	Phase 1 Minimal or no risk	Phase 2 Animal virus with potential human risk circulating	Phase 3 Novel (Human) Virus Alert	Phase 4 Highly localized, small infection clusters; limited human-to-human infection	Phase 5 Large infection clusters but only localized human-to-human infection	Phase 6 Sustained, widespread transmission	Return to Interpandemic Period
Influenza Surveillance (continued)	Identify methods to enhance influenza surveillance and establish when possible. For example: - Airport surveillance for ill travelers - Targeted surveillance for severe lower respiratory tract disease		Monitor CDC bulletins regarding the novel virus, establish regular communications with Federal partners, and disseminate information to DHOs, health care facilities, health care providers, and partner agencies to update them as needed.			Continue data collection and analyses to refine epidemiology of the pandemic to guide inventions.	Evaluate surveillance activities and modify protocols as needed.
	Ensure SLD capacity for timely and accurate laboratory testing in Hawai`i.		Convene the Ad Hoc Advisory Committee as needed to consult regarding enhanced surveillance activities, establish communications with partners, and seek other potential recommendations.				Revert to interpandemic surveillance if transmission has ceased.
	Investigate any localized influenza outbreaks.		Analyze data collected to define epidemiological characteristics of the pandemic including population at risk, mode of transmission, the effectiveness of treatments and other countermeasures.				
Pandemic Influenza Vaccine Delivery	Promote routine (i.e., non-pandemic) influenza vaccination and increase vaccine coverage.		Confirm representation/availability for Ad Hoc Advisory Committee to facilitate expert consultation as needed.				Evaluate overall response.
	Promote pneumococcal vaccination among 'high-risk' groups.		Re-establish and confirm priority groups for vaccination.				Assess remaining resources (supplies and people).
	Establish priority groups for vaccination.			Periodically reassess priority groups and modify as pandemic characterized and as needed to ensure most benefit to limit and end transmission.			
			Review/update vaccination distribution plans. Coordinate through State Civil Defense EOC to ensure security for the vaccines.				

Component Activity	Interpandemic Period		Pandemic Alert Period			Pandemic Period	Post-pandemic Period
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Pandemic Influenza Vaccine Delivery (continued)		Develop vaccine management tracking system.		Track all doses distributed/administered as well as remaining supply.			
	Pre-identify sites statewide for possible vaccination centers.		Activate vaccine distribution plans if and when candidate pandemic vaccine becomes available.				
			Coordinate with State Civil Defense to ensure security of vaccine and those who will administer it.				
				Monitor for and record adverse events to vaccine administration.			
Antiviral Medication Distribution	Planning and development period; no distribution of antivirals for pandemic purposes.			Disseminate updated information regarding antiviral use to health care providers. (may start earlier)			Assess antiviral effectiveness through analyses of data.
	Establish priority groups for treatment. Also establish for prophylaxis in case supplies justify such use.		Gather updated data regarding antivirals (numbers and locations) in Hawai`i.				Assess effectiveness of operations.
	Identify, inventory, and coordinate with pharmaceutical distributors, pharmacies/pharmacists, and health care providers to determine estimated quantities of antivirals in Hawai`i and to establish contacts for future lines of communication.		Review current prophylaxis and treatment guidelines and monitor CDC updates.	Direct pharmacies to halt dispensing of antivirals – may occur during phases 4 or 5 if pandemic has reached Hawai`i, but definitely during phase 6. Antivirals will be collected to HDOH depot(s) for directed dispensation in consultation with health care providers and Hawai`i Healthcare Association (HAH).			Assess remaining resources.
	Pre-identify sites statewide as points of distribution for antiviral medications. Solidify SNS plans for receipt and conduct training.		Review and update SNS and distribution plans.	Allocate and distribute antivirals to each County. HDOH will coordinate directed treatment with health care providers through the DHOs.			Modify operations and plans as needed based on post-event evaluations.

Component Activity	Interpandemic Period		Pandemic Alert Period			Pandemic Period	Post-pandemic Period
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Antiviral Medication Distribution (continued)	Maintain limited supply of oseltamivir for use in localized outbreaks of annual influenza.		Coordinate through State Civil Defense EOC to ensure security for the antivirals and persons dispensing.				
	If possible, establish State stockpile of oseltamivir (and/or other antiviral) to treat high-risk individuals during pandemic.			Treat ill patients with probable or confirmed influenza who are at high risk for complications. Consider limited and directed prophylaxis only if antiviral supplies considered sufficient.			
	Establish legal authority of HDOH Director to order collection of all antivirals in State for redistribution to yield the most public health benefit.			Track all antivirals distributed, patient outcomes, and adverse effects.			
		Develop antiviral medication tracking system.			Request and secure resupply of antivirals as needed and as available.		
				Monitor pandemic virus susceptibility to antivirals and review CDC updates and other scientific data to quickly address any changes in recommendations.			
Isolation and Quarantine	Identify sites, facilities, equipment, and other resources that may be used for isolation and quarantine purposes in case of highly communicative novel respiratory virus outbreak.		Be prepared to activate isolation plans.	Activate plans and supports for isolation according to CDC/WHO recommendations (depends on what is learned about the novel virus as pandemic progresses) and as necessary to limit spread of infection from ill persons.			Assess effectiveness of operations.
	Ensure that HDOH and all partner agencies (including epidemiology investigators, first responders, health care, and law enforcement) have adequate PPE supplies.		Be prepared to activate quarantine plans.	Activate plans and supports for quarantine according to CDC/WHO recommendations and as necessary to limit potential transmission from exposed healthy persons.			Assess remaining resources and replenish as needed and possible.
	Identify necessary support services and supplies in the event of activation of isolation and/or quarantine plans.		Coordinate through State Civil Defense to ensure potential necessary security and enforcement.				Modify plans as necessary to improve operations.

Component Activity	Interpandemic Period		Pandemic Alert Period			Pandemic Period	Post-pandemic Period
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Isolation and Quarantine (continued)	Educate the public on hand, cough, and sneeze hygiene and, if necessary, on appropriate use of masks and other protective measures (e.g., self-quarantine).						
	Monitor current recommendations and collaborate with HAH and other partners in reviewing and updating plans for isolation and quarantine measures.						
	Encourage and discuss with all partners to consider methods to facilitate self-quarantine and other measures (e.g., telecommuting for work and/or school) should such become necessary.			Activate community-based control measures as needed once pandemic influenza virus has reached Hawai`i.			
Health Care Delivery	Develop and solidify all health care delivery plans and resources/supports needed to implement such.		Maintain regular communications between HDOH and all key health care partners.				Ensure decontamination of all health care facilities and proper disposal of infectious waste.
	Identify and establish health care delivery surge capacity.		Institute infection control precautions (for respiratory disease) in health care facilities as necessary, per HDOH recommendations, updated regularly as data are made available from CDC/WHO.				Assess effectiveness of operations.
	Educate and conduct drills and training exercises to prepare HDOH, health care providers, and all key partners.		Engage focused screening and triaging of patients seeking care at any health care facility; collaborate with HDOH to report and submit specimens from any patients fulfilling criteria for suspect pandemic influenza.				Assess remaining resources and replenish as needed and possible.
	Identify and establish antemortem care and morgue capacity and plans.		Activate health care delivery plans to ensure such operations as soon as first Hawai`i case identified and to ensure that operations keep pace as pandemic escalates.				Modify plans as necessary to improve operations.
				Activate health care delivery surge capacity as needed, including requests to Federal government for assistance.			
				Activate plans for antemortem care and morgue capacity as needed.			

Component Activity	Interpandemic Period		Pandemic Alert Period			Pandemic Period	Post-pandemic Period
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Communications	Establish contact between HDOH and all partner agencies through public information officers (PIOs) and other communication contacts.		Activate JIC and utilize the JIS as needed to facilitate effective communications.				
	Develop, review, and update press relevant materials and messages.		Facilitate and coordinate communications between HDOH and Governor's and County offices.				
	Facilitate training of hotline staff, who will help provide information to the public throughout the pandemic phases.		Maintain regular contact with all partner agencies through PIOs and other communication representatives and exchange updates on situation.				
	Identify spokespersons and coordinate media interviews as necessary.		Keep public informed and educated by distributing timely and necessary information from HDOH and coordinating media briefings.				
	Conduct and facilitate public health education.						Evaluate effectiveness of communication operations. Modify protocols and incorporate improvements and identified resources.
	Conduct training exercises with all partner PIOs to ensure familiarity with JIS and JIC operations and readiness to manage demands during pandemic.						

Section 1. COMMAND AND CONTROL

I. OBJECTIVE

This section defines the command and control of operations in response to pandemic influenza, including:

A. Authority for the required actions

B. How the overall response follows an incident command system (ICS) that is compliant with the National Incident Management System (NIMS).

C. Role of the HDOH as the lead State agency in the State's medical and public health response to an influenza pandemic

D. Roles and responsibilities of HDOH partner agencies at the Federal, State and County levels

E. HDOH personnel who will act as liaisons with the Command and Control function

II. AUTHORITY

A. The cornerstone of Hawai`i's ability to respond to emergencies and disasters is the State Plan for Emergency Preparedness, Disaster Response and Assistance, Version 3. This plan:

1. Outlines the mechanism for providing State assistance to County governments dealing with significant disasters.
2. Defines policies, concept of operations, organizational structure, and Federal-State-County interfaces.
3. Outlines the provision of health and medical services in response to emergencies and disasters.

B. The Director of Health is the lead public health authority in the State and will be responsible for officially activating the Hawai`i Pandemic Influenza Preparedness & Response Plan.

C. The Pandemic Preparedness Working Group is led by the HDOH and is charged with overseeing the planning process.

D. The HDOH is the overall authority in charge of coordinating the medical response during a public health emergency and does this in collaboration with medical care partners.

E. At the point where resources outside the HDOH are needed, or the basic infrastructure of the State is being affected as a result of the pandemic, the assistance of the agencies listed as Federal, State, or County support agencies

shall be sought.

1. The HDOH will activate its Department Operations Center (DOC) and will coordinate requests for Federal, State, and County assistance through State and County Civil Defense agencies or emergency operations centers, if the latter have also been activated.
2. The HDOH will fulfill ESF #8 (Public Health and Medical Services) as part of the State Emergency Response Team.

F. Hawai`i Law – Emergency Powers and Isolation/Quarantine

1. The emergency powers embodied in chapters 127 and 128, Hawai`i Revised Statutes, as vested in the civil defense system are adequate to enable the State to respond to potential or actual public health emergencies.
2. Section 6 presents information about Hawai`i law including definitions of isolation and quarantine, due process, and procedural issues.
3. Hawai`i law allows isolation of an individual who has been informed by the HDOH, health care provider, or hospital that he or she has been diagnosed with a communicable disease. Any person who has been a contact of someone diagnosed with a communicable disease must comply with the specified restrictions.
4. Hawai`i law allows quarantine of individuals or groups believed to have been exposed or known to be infected with a communicable disease of public health significance or that poses a risk to the public's health.

    a. The Director of Health and the Governor have the authority to declare quarantine.
    b. Quarantine will be terminated once the Director of Health determines that quarantine is no longer needed to protect the public health.
    c. Violation by someone subject to quarantine of the quarantine provisions is a misdemeanor.
    d. The HDOH has the authority to engage police authorities to assist in enforcing quarantine.

III. USE OF THE NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS)

A. In a significant public health emergency, the HDOH will operate its DOC in support of the State Emergency Operations Center (EOC) operated by State Civil Defense.

B. The response will follow a NIMS-compliant Incident Command System. Refer to Appendix C for the HDOH DOC Concept of Operations organizational chart.

IV. DEPARTMENT OF HEALTH (Refer to Appendix D for Key HDOH Areas

Contact Information)

A. The HDOH has overall responsibility for management of any public health emergency in the State, including an influenza pandemic.

B. During a pandemic, the HDOH will establish a DOC, which will communicate with the State EOC to manage the pandemic and request resources.

1. The HDOH Disease Outbreak Control Division (DOCD) will manage the overall pandemic response effort until such time that the DOC is activated..
2. The HDOH DOC will coordinate, when activated and as appropriate, all public health support requirements for the response effort.

C. Based on decisions made previously for preparedness plans (as in this document), current event information, and any existing or new national guidelines, the HDOH DOC will establish indications for use and prioritize preventive medications or vaccines to be dispensed, if available.

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D. HDOH leadership will designate personnel required to provide support to HDOH DOC activities and liaise with other partner response agencies.

E. HDOH DOC Incident Commander (IC)

1. The DOC IC will collaborate with the Director of State Civil Defense on health and medical matters related to the pandemic.
2. The DOC IC will, via the DOC, support the activities of the District Health Offices (DHOs) on the Neighbor Islands.
3. The DOC IC will, as needed, facilitate the coordination of activities with partner agencies including the City and County of Honolulu and the DHOs, the Disaster Medical Assistance Team (DMAT), the Healthcare Association of Hawai`i (HAH), the American Red Cross, and the Hawai`i Pharmacists Association.

F. Liaison Officer - Civil Defense Coordinator. Will coordinate reciprocal updates between the HDOH and Civil Defense regarding ongoing response activities and will identify HDOH resource requirements for the implementation of the Pandemic Influenza Preparedness & Response Plan.

G. HDOH Public Information Officer (PIO)

1. Responsible for coordinating all public information messages, coordinating with the news media, and will be the point of contact for media interview and information requests, through the Department of Health Information Center (DOHIC) or the DOC.

2. Responsible for implementing the DOH Communications Plan.
3. Will either lead or assist with (depending on who is identified as the Incident/Unified Command lead agency) monitoring the flow of real-time information from and among the different response partners in a Joint Information Center (JIC) setting.

H. Liaison with District Health Officers

1. Operates as liaison to the DHOs, who are the key points of contact in their Counties on all matters impacting the public health.
2. The DHOs will in turn coordinate with their County Emergency Operations Center (County EOC) during an influenza pandemic, will have a seat at the County EOC, and through the County EOC will request support from other Counties and/or other Federal or State resources as needed.

I. Planning Chief. Will head the planning section and will be responsible for the planning and delegation of roles and responsibilities for multi-agency support to effectively manage the pandemic flu response effort.

J. Operations Chief

1. Will head the operations section which includes three branches (Environmental Response, Clinical Services, and Epidemiology/Surveillance).
2. Responsible for coordination of all environmental health, clinic services (including ambulatory services, hospital services, and psychological first aid), and epidemiology/surveillance activities (including surveillance, investigations, contact tracing, and field response efforts).

K. Logistics Chief

1. Responsible for ensuring the availability of adequate supplies, facilities, ground support, and communications and information technology hardware and software.
2. Oversees the services requested of and provided by the State Laboratories Division (SLD; and other clinical laboratories supporting the response) and the collection and maintenance of vital records.

L. Finance Chief

1. Responsible for coordinating all human resources support for HDOH personnel assigned to the response effort.
2. Responsible for tracking labor costs such as payroll or contractors, if applicable.
3. Responsible for logging all expenditures to substantiate claims for

possible future Federal funding reimbursement.
4. Oversees volunteer management and resources.

V. FEDERAL PARTNERS

A. The availability of Federal, military, and related support during a response to an influenza pandemic in Hawai`i will not be certain until the time of the event and will depend on a Federal decision to approve allocation of resources during a response in support of the State and County effort.

B. Request for Federal assistance will be through the State Civil Defense and the State EOC. An HDOH DOC request will be communicated through the HDOH Liaison Officer/Civil Defense Coordinator.

VI. STATE AND COUNTY PARTNERS

A. Support from other State agencies and the Governor will mirror what is outlined in the State Plan for Emergency Preparedness, Disaster Response and Assistance, Vol. 3.

B. Among State and County partners are the Hawai`i Department of Defense (includes Civil Defense and National Guard), Office of the Attorney General (AG), Department of Accounting and General Services, Department of Transportation, Department of Education, Department of Public Safety, Department of Land and Natural Resources, Mayors of all Counties and their respective police, fire, emergency medical services, parks and recreation, and public works departments.

VII. OTHER AGENCIES AND PARTNERS

**A. Healthcare Association of Hawai`i.** HAH is a private, not-for-profit organization operated by Hawai`i hospitals, long-term care, home health, and hospice organizations for their mutual benefit and serves as the point of contact and coordination for all such facilities in the state.

B. American Red Cross

1. Establish phone bank with published number for Red Cross services: family reunification, home delivery services for meals or materials, and crisis support.
2. Feeding and logistical support for quarantine or isolation areas.
3. Spontaneous volunteer processing and placement.
4. Provide support to vaccine and medication clinics (if held) if workers can be adequately protected.

C. Hawai`i Pharmacists Association

1. Assists with coordinating and providing continuing education and facilitates training of pharmacists and pharmacy technicians in their potential capacities as providers of antiviral medication and/or vaccinations at HDOH operated clinics, or Point of Distribution sites.
2. Assists with a pre-event campaign to educate the public on preventive measures.
3. Assists with the active recruitment of their membership to provide assistance during any large scale public health/all hazards response where surge capacity for those licensed and trained as health care providers is needed.

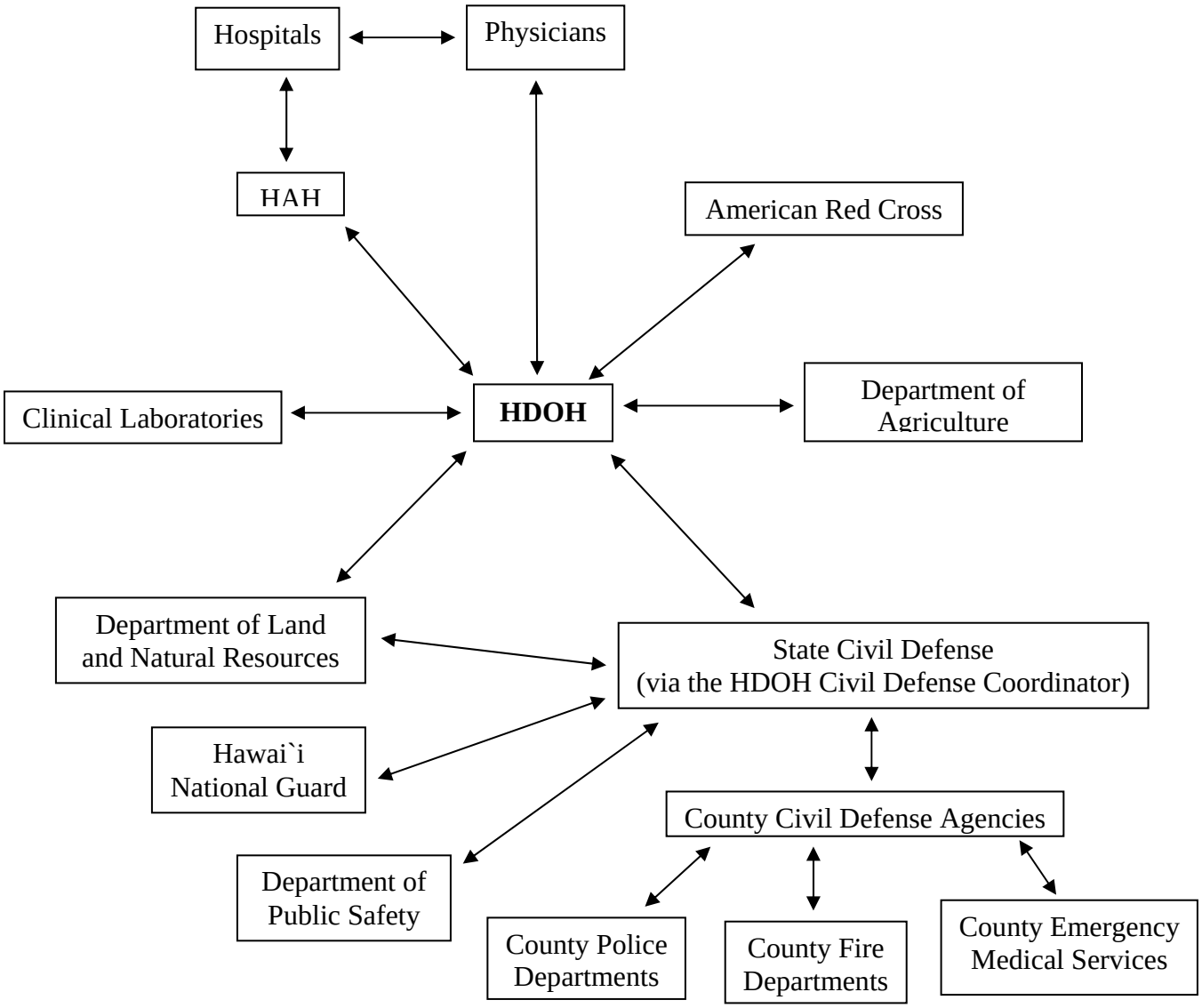
VIII. NOTIFICATION AND INFORMATION FLOW

A. Reports of increased or unusual influenza activity in the State will come from a number of different sources including, for example:

1. Hospitals
2. Physicians
3. Community clinics
4. Concerned members of the public
5. Clinical laboratories in the state
6. Other states
7. CDC

B. This information will be reported to the HDOH DOCD and its Disease Investigations Branch (DIB). If, pursuant to surveillance and epidemiological activities described in later sections, a potential pandemic is identified, the HDOH will activate its own internal HDOH notification protocols starting with the Director of Health and key staff.

C. An example of notification and sharing of information between the HDOH and external partners is provided in the following diagram. Please note that the diagram is not meant to provide a complete list of partners nor a rigid structure for communication. It is expected that there will be communication among partners as well as with the HDOH.


Hospitals
Physicians
HAH
American Red Cross
Clinical Laboratories
HDOH
Department of Agriculture
Department of Land and Natural Resources
State Civil Defense (via the HDOH Civil Defense Coordinator)
Hawai`i National Guard
County Civil Defense Agencies
Department of Public Safety
County Police Departments
County Fire Departments
County Emergency Medical Services

Section 2. INFLUENZA SURVEILLANCE

I. OBJECTIVE

This section describes the activities that will be used in Hawai`i to detect and characterize circulating strains of influenza virus and generate epidemiologic information. This information will be used to guide the actions of public health officials during a pandemic.

II. INTERPANDEMIC PERIOD: *Phases 1 and 2*

A. An effective influenza surveillance system should:

1. Provide epidemiologic information during the annual influenza epidemics regarding the distribution, magnitude, and severity of influenza illness.
2. Facilitate monitoring of antigenic changes in circulating viruses.
3. Detect the introduction of new viruses that have the potential to cause a pandemic and identify low-level spread of a novel virus.
4. Provide information to guide public health actions including patterns of viral transmission, populations at risk, the effect of treatments, and the effectiveness of interventions.

B. The existing influenza surveillance system currently consists of four routine activities, which are ongoing in most states, and two enhanced activities that have been implemented in Hawai`i:

1. Routine activities:

   a. *Virologic surveillance.* Characterizes circulating viral strains and attempts to identify new viral strains if introduced.
   b. *Influenza-like-illness (ILI) sentinel surveillance.* Quantifies the level and location of influenza-compatible illnesses being treated in the community.
   c. *Pneumonia and influenza mortality surveillance.* Compares cause specific death rates in Honolulu with national and historical data.
   d. *Illness cluster/absenteeism surveillance.* Identifies clusters of ILI or reports of school absenteeism for additional investigation.

2. Enhanced activities:

   a. *Port of entry ILI surveillance.* Identifies and characterizes influenza viruses causing illness among travelers.
   b. *Year-round influenza surveillance.* Seeks to identify viral isolates that may be circulating in Hawai`i during periods outside the typical influenza season for North America.

C. To prepare for a potential pandemic the DOCD and the SLD will maintain and enhance the existing influenza surveillance infrastructure, described in more

detail below. Additional surveillance activities that may be added as needed during a pandemic are also described.

1. Virologic Surveillance:

   a. Approximately 400 physicians across the State submit specimens to the HDOH throughout the year for influenza testing. Two pharyngeal/throat swab specimens per patient with ILI are submitted. These paired specimens provide disease investigators with a rapid test result, performed by a commercial laboratory, and a culture or polymerase chain-reaction (PCR) test result, performed by the SLD.
   b. The three major private commercial laboratories in Hawai`i (Clinical Laboratories of Hawai`i, Diagnostics Laboratory Services, and Kaiser Permanente) perform approximately 5000 rapid influenza tests per year.
   c. SLD analysis capacity includes the following:

      i. Provides viral isolation (with routine typing and sub-typing) from specimens submitted by both sentinel and non-sentinel sites. Over the last several years, the SLD has tested 3000-6000 specimens annually.
      ii. Can isolate by culture and identify other respiratory viruses (e.g., adenovirus, parainfluenza types 1-3, enterovirus, echovirus, herpes simplex, cytomegalovirus, and coxsackie) that may cause ILI.
      iii. Is in the process of establishing implementation of reverse transcriptase-PCR (RT-PCR) techniques to provide differential diagnostic testing for non-viral respiratory pathogens (e.g., *Chlamydia pneumoniae*, *M. pneumoniae*, and *Legionella*) as well as influenza and adenoviruses.

   d. The specific process for virologic laboratory surveillance and analysis is as follows:

      i. The DIB Influenza Surveillance Coordinator actively solicits the submission of respiratory specimens and the results of any rapid testing for influenza at regular intervals from all commercial laboratories in the State.
      ii. SLD staff performs RT-PCR testing to detect influenza virus in specimens identified by DIB as outbreak-related to facilitate outbreak investigation and control.
      iii. SLD staff can perform real time RT-PCR to detect Severe Acute Respiratory Syndrome (SARS) coronavirus and/or avian influenza in specimens from patients with clinically and epidemiologically compatible illness.
      iv. SLD staff, in consultation with DIB, may perform differential

diagnostic testing for other respiratory pathogens.

v. The SLD provides weekly cumulative reports of submissions and findings to DIB and the WHO.

vi. The SLD, as a WHO collaborating laboratory, periodically sends selected culture-confirmed influenza isolates to the CDC for sub-typing confirmation and possible molecular analysis. SLD submissions of positive isolates to the CDC occur at the following times:

1) The beginning of the annual influenza season (usually early October or November), when the first positive influenza isolate in the State is identified.
2) Midway through the season (usually late December and January).
3) Toward the end of the season (usually March or early April).
4) Anytime during the season when the SLD is unable to sub-type an isolate as a currently circulating strain, as specified by the WHO.
5) Anytime during the season when epidemiological information indicates unusual occurrence such as a case that received influenza vaccine within the previous year and presented with severe or unusual illness.

e. The DIB Influenza Surveillance Coordinator maintains databases with the following information:

i. Specimen information (e.g., the number of specimens submitted, submitter type [sentinel or non-sentinel sites], culture results, and virus types and subtypes)
ii. Demographic and epidemiologic information for laboratory-positive infection

2. <u>Influenza-like Illness Sentinel Surveillance</u>

a. The HDOH participates in national ILI surveillance through the U.S. Influenza Sentinel Surveillance Project (Appendix E), which is jointly coordinated by the CDC and the individual States.

i. This project provides a central repository for influenza morbidity and virologic surveillance data that can be rapidly analyzed by the CDC.
ii. As of October 2005, Hawai`i has 72 influenza sentinel surveillance sites enrolled across the state, well over the 5 sites recommended, or one per 250,000 population.
iii. The sentinel surveillance system is expected to be continually expanded and diversified. Specific objectives are to:

1) Maintain a minimum of 10 sentinel sites reporting ILI at least 40 weeks a year state-wide.
2) Maintain site diversity to ensure provision of population-based information.
3) Continue to foster sites that improve identification of influenza in specific subpopulations (e.g., high-risk groups, hospitals, emergency departments, children, otherwise healthy adults, work-based populations, Asia and the Southern Hemisphere travelers or visitors).
4) Ensure, through regular contact with the Influenza Surveillance Coordinator, that sites appropriately report ILI cases and submit specimens for testing.

b. The sentinel sites report influenza morbidity data directly to the CDC via the internet weekly, from the second week in October through the last week of May. Each transmission consists of:

i. Number of patients seen for ILI during a given week in each of four age categories: 0–4 years; 5–24 years; 25–64 years; and > 65 years
ii. Total number of patients seen for any reason at the sentinel site during that week

c. The CDC compiles morbidity data submitted by the sentinel sites and provides weekly reports on the percent of visits that are due to ILI on the national, regional, and state level.

i. This percent is compared to a baseline of 0-3%.
ii. The weekly reports also include influenza activity as assessed by state and territorial epidemiologists as “sporadic”, “local”, “regional”, or “widespread”.
iii. These reports are available on a CDC site (http://www.cdc.gov/flu/weekly/fluactivity.htm) as well as the DIB website (http://www.state.hi.us/health/resource/comm_dis/flu/index.htm).

3. Pneumonia and Influenza (P & I) Mortality Surveillance

a. The Office of Health Status Monitoring/Vital Statistics reports to the CDC weekly numbers of deaths due to pneumonia and influenza for Honolulu.
b. This information is compiled with data from 122 U.S. cities to determine if death rates exceed expected baselines for P & I deaths.
c. The findings are published in the Morbidity and Mortality Weekly Report and reviewed by DIB investigators.

4. Illness Cluster/Absenteeism Surveillance

   a. Specimen collection kits are sent to the DHOs at the beginning of the influenza season (and as needed) via an overnight mail delivery service for rapid investigation of outbreaks or suspect novel or avian influenza cases.
   b. Kits are also rapidly deployed to schools and long-term care facilities on an as-needed basis via courier or an overnight mail delivery service to facilitate diagnosis and outbreak control.
   c. Schools are requested to report absenteeism of >15% in any one classroom or >10% in any school. These absences are investigated to determine if the cause is ILI and, if so, appropriate virologic testing ensues.
   d. DIB staff also investigate reported clusters of ILI at long-term care facilities and other institutions.

5. Port of Entry ILI Surveillance

   a. Hawaii receives approximately 2.5 million international visitors annually with a large proportion from East and Southeast Asia, where novel viruses are expected to emerge.[3]
   b. Current protocols require commercial airlines to report incoming ill passengers to the CDC Honolulu Quarantine Station.
   c. Enhanced influenza surveillance at the Honolulu International Airport is being implemented by utilizing on-site testing of ill passengers.
   d. The target group for enhanced surveillance will be interstate and foreign travelers with a fever or history of fever of 38˚C (100.4˚F) or greater body temperature plus one or more of the following symptoms: headache, body aches, sore throat, cough, chills, malaise, and/or vomiting.
   e. Two nasopharyngeal samples will be collected from each ill passenger and sent to the SLD for testing. See Appendix F for the HDOH Airport Influenza Surveillance Plan.

6. Year-round Influenza Surveillance

   a. Sentinel sites will be encouraged to submit specimens during the 'inter-season' (April through September). Sites that include patient populations likely to travel to or visit from other countries, particularly Asia and the Southern Hemisphere, will be solicited more heavily.
   b. As needed, case demographic characteristics will be reported to the Epidemiology Section of the Influenza Branch at the CDC

[3] Hawaii State Department of Business, Economic Development & Tourism, Research and Economic Analysis Division, 2000 Annual Visitor Research Report (2001), pp 58-60.

electronically or by telephone.

c. The SLD has cross-trained staff to ensure adequate personnel for influenza viral testing. In the event of avian influenza or other highly pathogenic strain, the SLD will be prepared to perform PCR testing on suspect cases.
d. The Influenza Surveillance Coordinator maintains a list of Influenza Coordinators for all states.

III. PANDEMIC ALERT: *Phases 3, 4, and 5*

When augmented surveillance is needed to respond to a growing threat of pandemic influenza, DIB will enlist the assistance of sentinel providers and other health care facilities to rapidly identify illnesses that warrant investigation.

A. Novel virus alert. Defined as a virus that has never previously infected humans or hasn't infected humans for a long time. It is likely that no one, or very few, will have antibodies, or immunity, to protect them against the novel virus. Novel virus alert occurs when two or more human infections (with a novel virus) have been confirmed. The ability of the virus to spread from human-to-human and cause serious disease, however, is still questionable.

B. Human infection confirmed

1. Continue routine and enhanced surveillance activities as established during the *Interpandemic* period or activate routine surveillance systems if alert occurs during the period between influenza "seasons" and consider implementation of enhanced laboratory surveillance.
2. Update public health and health care providers of the region(s) where the novel influenza virus has been detected.
3. Consult the Department of Agriculture regarding animal surveillance.
4. Implement expanded laboratory surveillance to include the following:

    a. Notification of public health and health care providers to collect respiratory specimens from patients who meet one of the following criteria:

        i. Present with ILI and had recent travel to a region where the novel influenza strain has been identified.
        ii. Present with unusually severe symptoms of ILI regardless of their travel history.

    b. Two respiratory specimens, from separate anatomical sites, should be submitted directly to the SLD to test for the novel influenza virus (Appendices G and H).
    c. The SLD will obtain appropriate reagents from the CDC to detect and identify the novel strain.

5. Monitor CDC bulletins regarding virologic, epidemiologic, and clinical findings associated with new variants isolated within or outside the United States.
6. Distribute these bulletins to the DHOs, health care facilities, providers, and other agencies as appropriate.
7. Meet with the SLD Chief and staff and other partners to review major elements of enhanced surveillance activities and modify and update plans as needed.
8. Investigate cases of severe respiratory illness and unexplained deaths associated with respiratory illness to determine etiology.

C. Human transmission confirmed. Once a pandemic influenza strain has been identified as circulating internationally, the goal of *Pandemic Alert* surveillance is to identify the appearance of the novel virus in Hawai`i. Activities to be implemented during this stage will include the following:

1. The State Epidemiologist and DOCD staff will review existing surveillance activities, assess their findings, and evaluate possible enhanced surveillance plans.
2. HDOH Communications staff will coordinate with the State Epidemiologist and DOCD to determine media requirements.
3. Routine meetings between DIB and the SLD will be established to assess resources, specimen submissions, and prioritizations.
4. Fully operationalize active surveillance activities (e.g., daily calls to hospital contacts for updates regarding ILI visits and admissions)
5. Establish regular communication with HAH to receive reports and discuss status of isolation capacity and overall bed capacity of hospitals and other health care institutions.
6. DIB will augment the port of entry activities system with active ILI surveillance among travelers returning from novel virus activity areas, in consultation with CDC Division of Quarantine and Global Migration.
7. Implement laboratory surge capacity plans for laboratory personnel, equipment, and supplies.
8. Convene the Pandemic Influenza Preparedness & Response Ad Hoc Advisory Committee from agencies and organizations listed in Appendix I to initiate contact and communication with HDOH partners. As the name implies, this is an advisory body only and will serve to make potential recommendations based on the combined diverse background and experience of the representative members.

IV. PANDEMIC PERIOD: *Phase 6*

A. Pandemic onset. Implement surveillance enhancements developed in earlier stages as follows:

1. Maintain and monitor, in collaboration with the CDC, local health officials, clinicians, and academicians, enhanced surveillance activities.
2. Continue analysis of incoming patient data to determine populations at greatest risk.
3. Document population-specific influenza outbreaks.
4. Determine population-specific attack rates, morbidity, and mortality.
5. Describe any unusual clinical syndromes (including risk factors and appropriate treatment).
6. Describe any unusual pathological features of fatalities.
7. Assess effectiveness of vaccination or treatment (and chemoprophylaxis, if such is possible).
8. Assess health care (e.g., hospitals and outpatient clinics) capacity and delivery.
9. Maintain port of entry ILI surveillance system.

B. Regional and multiregional epidemics. Describe the epidemiology of pandemic influenza in Hawai`i to develop preventive action recommendations, allocate medical resources, and respond to public and media questions and concerns.

1. Assess all current surveillance activities to eliminate or modify those lacking support due to limited resources.
2. When the large numbers of patients meeting clinical criteria exceed laboratory capacity to test and/or case categorization may be established based on conclusive clinical and epidemiological history, consider limiting specimen collection to a representative sampling of patients. Such sampling will be representative of age, gender, and geographic location.
3. Focus laboratory surveillance on detection of antigenic drift variants by submitting specimens to the CDC for molecular analysis.
4. Monitor surveillance reports on national and international morbidity and mortality for dissemination.

C. End of first pandemic wave. Assess remaining resources, evaluate surveillance data, and prepare for a likely second wave of influenza activity. Consider return to any enhanced surveillance activities that had been suspended prior to this phase.

D. Second or successive pandemic waves. Consider necessity and feasibility of surveillance activities which may consist of the following:

1. Continued surveillance as described in III.B. above.
2. Continued limited enhanced influenza surveillance until the novel influenza virus has been identified in all regions of the State or when transmission of the novel virus has ceased.

V. POSTPANDEMIC PERIOD: *Evaluation Stage*

A. Surveillance activities will revert at this point, if not sooner, back to DIB/DOCD, and the HDOH DOC may be deactivated.

B. The primary objective will be to assess the following:

1. Availability and readiness of all HDOH and external staff to maintain surveillance and to what level
2. Detailed retrospective characterization of the pandemic
3. Effectiveness of recommended prevention and control measures and emergency management responses
4. The need to prospectively continue pandemic surveillance activities

Section 3. PANDEMIC INFLUENZA VACCINES

I. INTRODUCTION

A. Objective. To outline the plan to procure, secure, distribute, and administer pandemic influenza vaccine when/if it becomes available.

B. Background. Vaccination is the primary intervention to decrease the health impacts of an influenza pandemic. The overall impact of vaccination during a pandemic depends on how rapidly a pandemic influenza vaccine becomes available; its effectiveness in preventing infection and disease; its supply; and the ability to allocate and administer it.

C. Assumptions

1. The overall target population will encompass Hawai`i's resident and visitor population with the latter increasing the need for pandemic influenza vaccine above and beyond what is necessary for our resident population.
2. It will be impossible to predict when the pandemic virus will arrive. However, because of Hawai`i's unique location and high volume of visitors, travelers, and immigrants relative to the resident population, the pandemic virus may arrive in the islands sooner than in some parts of the continental United States.
3. Due to current manufacturing processes, pandemic influenza vaccine will likely not be available for a *minimum* of six to eight months after detection of the pandemic virus. It is also possible that no pandemic influenza vaccine will be available.
4. In a pandemic situation, the Federal government will likely be responsible for both procurement of pandemic influenza vaccine and distribution of the vaccine to State health departments. Given the probability of limited pandemic influenza vaccine supply during the early months of a pandemic, the Federal government likely will be responsible for determining the number of doses distributed to each State health department.
5. A shortage of pandemic influenza vaccine is expected in the initial months of a pandemic. If and when pandemic influenza vaccine supplies become available, it is expected that because there will be a high demand for pandemic influenza vaccine nationwide, Hawai`i will not initially receive sufficient doses to vaccinate the entire population. Prioritization of persons receiving the initial doses of pandemic influenza vaccine and adherence to the priority list will be necessary.
6. There will be a need for adequate security measures to safeguard the limited supply of pandemic influenza vaccine and to ensure the safety of the personnel who administer the vaccine and the public who will receive the vaccine.
7. The public, including the health care community, will need to be educated regarding the rationale for priority groups. Hot lines for calls from the

public will need to be established. Mental health/crisis workers will need to assist in dealing with distressed callers.

8. Because immunologic responses following a single vaccination of serologically negative individuals is often suboptimal, the emergence of a pandemic strain will likely require two doses of pandemic influenza vaccine, given an appropriate time (usually several weeks) apart.

II. ROLES

A. Federal roles

1. Development of reference strains for pandemic influenza vaccine
2. Pandemic influenza vaccine evaluation and licensure
3. Determination of populations at highest risk and strategies for vaccination and antiviral use
4. Deployment of federally purchased pandemic influenza vaccine
5. Evaluation of pandemic influenza vaccine safety

B. Department of Health roles

1. In a pandemic situation, assuming the Federal government is responsible for procurement and distribution of pandemic influenza vaccine, the HDOH will be responsible for receiving, storing, and distributing the vaccine within the state.
2. Based on current information and any existing or new national guidelines, determine the priority groups and the order of the groups to receive available pandemic influenza vaccine.
3. Distribute the pandemic influenza vaccine statewide according to predetermined decisions regarding number of persons in target groups on each island.
4. Provide standing orders for administration of pandemic influenza vaccine in (potentially mass) vaccination clinics.
5. Conduct vaccination clinics at previously determined sites (Appendix J, Potential Point of Distribution Sites)

III. RESPONSE BY PANDEMIC PHASES

A. Interpandemic period

1. Promote influenza vaccination in traditional high risk groups to increase vaccination coverage levels.
2. Increase vaccine demand and coverage before annual influenza epidemics by:

    a. Increasing vaccine acceptability through public education targeted at

familiarizing people with the safety profile and benefits of vaccination
b. Strengthening the vaccine delivery system

3. Promote pneumococcal vaccination in traditional high risk groups to reduce the incidence and severity of secondary bacterial pneumonia at the time of a pandemic.

B. Pandemic alert period: early phases – isolated cases to small, localized cluster

1. Confirm representation on the Pandemic Influenza Preparedness & Response Ad Hoc Advisory Committee (refer to Appendix I).
2. Begin identifying priority groups for receipt of the limited supply of pandemic influenza vaccine when available and deemed necessary.

    a. Although during annual influenza epidemics more than half of the hospitalizations and more than 90% of deaths occur in persons who are 65 years of age and older, the age distribution of severe disease in a pandemic may differ.
    b. Because of uncertainties regarding who will be most susceptible and most at risk for severe disease, strategies for pandemic vaccination will need to be flexible and possibly modified at the time of the pandemic, based on the epidemiology of the disease.
    c. As information about the impact of the pandemic influenza virus becomes available, recommendations regarding prioritizing limited supplies of pandemic influenza vaccine will be formulated at the national level.
    d. Vaccination priority will be adapted from the U.S. Department of Health & Human Services (HHS) recommendation as outlined in the November 2005 HHS Pandemic Influenza Plan (Appendix K).

3. Determine numbers of doses for each island based on proportions of selected priority groups and total available vaccine.
4. Review, execute, and modify, as needed, pandemic influenza vaccine distribution and administration plans (based on previously developed Strategic National Stockpile [SNS] distribution plans) to account for updates, if any, on recommended target groups, projected vaccine supply, and human resources available.

    a. Review/update the mass vaccination clinic plans for pandemic influenza immunization of the general public (Appendices L & M). Considerations for vaccination should also include:

        i. Vaccination of at-risk/hard to reach populations
        ii. Possibility of distributing vaccine to public and private providers for administration to their patients

iii. If previous occurs, then the HDOH may reserve vaccination clinics targeted at the uninsured and those without physicians

b. Specify procedures to ensure secure receipt, transport, storage, delivery, and administration of pandemic influenza vaccine.
c. Review Standing Orders for pandemic influenza vaccine administration in designated clinics (Appendix N).
d. Activate personnel from surge capacity lists from the HDOH and HAH as well as other agencies to assist with vaccination clinics. Note, must address potential loss of workers due to illness and other factors.
e. Additional contingency plans may be required depending upon how the pandemic influenza vaccine supply is delivered (i.e., enough doses to immunize Hawai`i's population all at once vs. receiving vaccine spread over a period of time) and depending upon the pandemic situation in Hawai`i and the rest of the world.

5. Coordinate with the State AG office to ensure that legal issues are addressed. Some issues may be addressed in advance of any pandemic. Examples of such issues that may arise include:

   a. The type (i.e., professionals and/or trained lay public) of volunteers legally allowed to administer vaccine
   b. Mandated vaccine for school attendance
   c. Mandated vaccine in a health care setting
   d. Liability of regular health care worker and volunteers to provide emergency care and vaccines to patients during a pandemic
   e. Medical/legal implications of administering pandemic influenza vaccine only to priority groups

6. Monitor adverse events post-vaccination through the Vaccine Adverse Events Reporting System.
7. Develop a data management system to track pandemic influenza vaccine supply, distribution, administration, adverse reactions, and recall for second doses.
8. Ensure redundancy of knowledge and responsibility for pandemic activities through pre-event training.

C. Pandemic alert period: late phase – large, localized cluster

1. Review Pandemic Influenza Preparedness & Response Plan with stakeholders.
2. The Pandemic Influenza Preparedness & Response Planning Working Group will review and modify the priority list as necessary using Federal guidelines, in consultation with a bioethicist. Recommendations for prioritization, including rationale for priority groups, will be presented to the Pandemic Influenza Preparedness & Response Ad Hoc Advisory

Committee for comments.
3. Update the Pandemic Influenza Vaccine Standing Orders, based on any new recommendations from the Federal government, as needed.
4. Order supplies necessary for vaccination clinics.
5. Ensure that human resources, equipment, supplies, security, and sites necessary for vaccination clinics are in place.
6. Obtain Vaccine Information Statement from the CDC, including translations for non-English readers.

D. Pandemic period

1. Confer with the CDC on the number of pandemic influenza vaccine doses Hawai`i will receive and date of receipt.
2. Implement security plan upon notification of date of arrival of pandemic influenza vaccine to ensure secure transport, storage, delivery, and administration.
3. Distribute pre-determined, specified doses to neighbor islands.
4. Distribute supplies for vaccination clinics.
5. Administer pandemic influenza vaccine according to the developed priority list.
6. Monitor for adverse reactions post-vaccination.
7. Track all doses of pandemic influenza vaccine distributed and administered.
8. If decision has been made to administer second dose to prioritized group, recall patients at the appropriate time for second dose of pandemic influenza vaccine.
9. Prepare for second pandemic wave as follows:

    a. Inventory pandemic influenza vaccine, pharmaceuticals, and supplies.
    b. Evaluate vaccination protocols and procedures.
    c. Critique and improve vaccination and distribution sites.
    d. Inventory personnel available to work in second wave vaccination clinics.

E. Postpandemic period

The Pandemic Influenza Preparedness & Response Working Group and Immunization Branch/DOCD staff, with assistance from partner agencies, will evaluate overall success of vaccination effort and make the report available to Pandemic Influenza Preparedness & Response Ad Hoc Advisory Committee partner agencies and the public.

Section 4. ANTIVIRAL MEDICATIONS

I. INTRODUCTION

A. Objective. To outline the plan to secure and monitor the supply of influenza-specific antiviral medications as well as allocate and administer it to the public based on its availability as well as known or theoretical effectiveness.

B. Background.

1. In the likelihood that an effective vaccine is unavailable, antiviral agents potentially could play a valuable role as the only virus-specific intervention during the initial response to an influenza pandemic.
2. Antivirals may lessen the total burden of the disease (morbidity and mortality). They may also reduce hospitalizations, other demands on the health care system, social disruption, and economic loss caused by an influenza pandemic.
3. However, the *overarching limitation* to antiviral use in a pandemic is inadequate availability. The initial wave or waves of a pandemic would create a high global demand and quickly deplete antiviral supplies unless stockpiles were in place or manufacturers were able to markedly enhance surge production capacity.
4. There are four licensed prescription medications with antiviral activity against influenza viruses that are commercially available in the United States. Based on their chemical properties and activities against influenza viruses, these four drugs are classified into two categories. There are important differences in pharmacokinetics, side effects, cost, and drug resistance between these two categories. (See Appendix O)

    a. The first category includes the adamantane derivatives or M2 ion channel inhibitors, which include the antivirals amantadine and rimantadine.
    b. The second category encompasses the neuraminidase inhibitors, which include the antivirals oseltamivir and zanamivir.

C. Assumptions

1. The points in Section 3, I.C.1-4 (Assumptions) apply here as well.
2. Antivirals are effective in both prophylaxis and treatment and are important adjuncts to vaccination as a strategy for managing influenza.
3. During a pandemic, antivirals could have a significant beneficial impact in reducing morbidity, demands on health care resources, and mortality.
4. Protection afforded by antivirals are virtually immediate and do not interfere with the response to inactivated influenza vaccine.
5. A local stockpile of antivirals is difficult to establish and maintain due to the high cost and limited availability of antivirals.
6. Due to the limited amount of antivirals in the pharmaceutical distribution system at any given time, there will likely be only sufficient antivirals

available to *treat* a few of the priority groups. Although chemoprophylaxis would be desirable to help control the pandemic and is discussed in various parts of this Plan, this measure is unlikely. Therefore, this Plan *focuses, by necessity, on using antivirals for treatment*.

7. Prioritization within priority groups for treatment will likely be necessary given the limited supply of antivirals.
8. Adequate security measures are needed to safeguard the limited supply of antivirals and to ensure the safety of all personnel involved in the distribution of the antivirals.
9. Additional resources and timely replenishment of antivirals may be difficult because of Hawai`i's geographic location.
10. In the absence of sensitivity testing, a neuraminidase inhibitor (oseltamivir) is the drug of choice since current indications are that the virus will be less likely to be resistant to this class of antiviral drugs than to the adamantane derivatives (amantadine and rimantadine).
11. Oseltamivir and rimantadine may be requested through the SNS, if supplies are available.

II. ROLES

A. Federal

1. Maintains a supply of antivirals in the SNS as recommended by national agencies.
2. Determines populations at highest risk and antiviral use strategies for prophylaxis and treatment of influenza.
3. Deploys and distributes the SNS assets upon request.

B. HDOH

1. Is the lead health decision-making agency in Hawai`i.
2. Determines prophylaxis and treatment options.
3. Develops and maintains the Hawai`i Pandemic Influenza Preparedness & Response Plan.
4. Implements the plan in response to an influenza pandemic.
5. Advises and coordinates with State Civil Defense or with the State EOC for an effective response.
6. Utilizes data derived from local surveillance to prioritize and time the use of antivirals during a pandemic.
7. Procures and maintains a limited cache of antivirals to be used during the early event until additional resources can be requested and deployed from outside of Hawai`i.
8. Will be responsible to request, receive, store, allocate, and distribute the antivirals within the state.
9. Educates the public and providers regarding the appropriate use of the antivirals.

10. Provides standing orders for distribution of antivirals in medication clinics, if such is possible/feasible, and provides guidelines for health care providers for antiviral prescribing.

III. ANTIVIRAL RECOMMENDATIONS

A. Interpandemic period

1. Antivirals will not be distributed or administered for pandemic purposes during this period; the only action during this time is that plans for such will be reviewed and developed further as needed.
2. The actual antiviral supply in the State will be known at the start of a pandemic and will be based on what has been amassed by the State and the supply available in pharmacies and health care facilities.

    a. State supply of antivirals:

        i. Maintain a limited supply of oseltamivir that includes stock rotation, if possible, to avoid outdating of the antiviral. This limited supply may be used for treatment and for public health intervention during the initial stages of a pandemic until resources can be requested and made available from the SNS, if available.
        ii. If possible (fiscally and supply-wise), maintain a State stockpile of oseltamivir (and/or other recommended antiviral). At a minimum the number of oseltamivir treatment courses in stock should be enough to care for individuals at high risk for complications from influenza, given a 25% symptomatic attack rate. Using the CDC *Flu-Aid* software, this population in Hawai`i is estimated to be 49,783 individuals.

    b. Antiviral supply in pharmacies and health care facilities.

        i. Identify and inventory pharmaceutical distributors to determine the estimated quantities and time-line of re-supply of antivirals in Hawai`i.
        ii. Coordinate with the pharmaceutical distributors on a plan to conserve and re-distribute antivirals upon notification of a pandemic.
        iii. Establish legal authority such that the Director of Health can require pharmacies to suspend any antiviral prescription dispensing upon notification of a pandemic and declaration of a public health emergency, and such antivirals be collected by the HDOH to ensure security of the limited supply and distribution to those who would benefit most from treatment with antiviral medications.

3. Given current limited world supply of oseltamivir and the cost,

prioritization for treatment may be required. Such prioritization in Hawai`i will be guided by recommendations published in the November 2005 HHS Pandemic Influenza Plan (Appendix P). Any extension of the prioritization or other related issues should be addressed by the Ad Hoc Advisory Group, which will forward recommendations to the Director of Health.

4. Conduct training programs on the Hawai`i SNS Plan to prepare HDOH staff who will be involved in antiviral distribution protocols and procedures.
5. Pre-identify sites statewide that can be used as community distribution centers (Appendix J).
6. Review and modify antiviral distribution plans as needed to account for updates, if any, on recommended target groups, projected antiviral supply, and human resources.

B. Pandemic alert period: no human-to-human spread

1. This is also a planning period with no pandemic-specific distribution or administration of antivirals.
2. The HDOH will review current CDC prophylaxis and treatment guidelines for antivirals (See Appendix Q) and estimate the current antiviral supply in the State.[4] From the guidelines and supply estimates, the HDOH will determine options for antiviral use, including:

    a. Prophylaxis (may be utilized in rare and specific cases, but most likely not possible)

        i. Long term prophylaxis of defined population for the duration of a pandemic wave of activity (minimum of 4 weeks)
        ii. Prophylaxis during outbreaks in closed institutions (usually lasting 2 weeks)
        iii. Protection of individuals for the period between vaccination and the development of protection (range from 2-6 weeks depending on the recommended dose of the vaccine)
        iv. Prophylaxis of individuals following exposure (approximately one week per course)
        v. Exposed individuals for whom influenza vaccination is contraindicated

    b. Treatment. Ill individuals for whom treatment can be initiated within the first 48 hours of their illness

[4] Prophylaxis is likely to be more effective in minimizing influenza cases with serious complications than treatment because it can prevent cases of influenza from developing. However, the use of antivirals for prophylaxis will require much larger supplies of antivirals.

3. Review and update, if needed, the Hawai`i SNS Plan, which will be utilized to request, receive, store, distribute, and manage the antivirals and other SNS material deployed to Hawai`i.
4. Review and update, if needed, the total number of antiviral doses and days supply that may be requested from the SNS for treatment (and potential mass prophylaxis) shall be based upon the following estimates for each County. (Note, it is understood that it is highly unlikely that there will be sufficient doses for every single person in the population; hence, the need for prioritization.).

County	Resident Census 2004	Visitor Census 2003	5% Factor[5]	Total	Estimated Population that will be used to calculate the total number of doses to be requested.
Oahu	899,593	76,776	48,818	1,025,187	**1,025,200**
Maui County	138,221	44,510	9,137	191,868	**191,900**
Kauai County	61,929	17,828	3,988	83,745	**83,800**
Hawai`i County	162,971	21,934	9,245	194,150	**194,200**
Total State	1,262,714	161,048	71,188	1,494,950	**1,495,100**

C. Pandemic alert period: person-to-person transmission

1. Determine the number of antiviral doses available throughout the State.
2. Notify the medical community of the status of antiviral availability and disseminate antiviral use guidelines using the HDOH broadcast fax and email alerting systems and protocols.
3. Utilize MedWatch (http://www.fda.gov/medwatch/index.html), the Federal Drug Administration drug safety information and adverse event reporting program, to assist in the monitoring and tracking of adverse reactions to antivirals and to establish a reports/complaints phone number including a 1-800 number to receive, monitor, and track adverse events associated with antiviral use.
4. Confer with the CDC to determine if antivirals will be available through the Federal government. Ensure that human resources and logistics are in place to begin antiviral distribution; must consider need for added staff due to illness.
5. If antivirals are severely limited in supply, priority for *treatment within the first 48 hours of illness onset* will be given to the groups previously outlined in III.A.2.b. The HDOH will re-examine and revise the priority as needed.

D. Pandemic period

[5] This is an arbitrary factor to account for assumed underestimates of census data.

1. Request additional antivirals and supplies from the SNS Program if available.
2. Utilize local oseltamivir (and any other antiviral indicated by the CDC for treatment) supplies to provide an early response prior to the arrival of the SNS.
3. Notify pharmaceutical distributors to conserve and await re-direction of antiviral supplies to HDOH authorized depot(s).
4. Require pharmacies to suspend antiviral dispensing and collect antivirals to forward to HDOH authorized depot(s) for HDOH directed distribution, in consultation with health care providers and HAH, for treatment of patients who are at high risk of complications and who have probable or confirmed influenza.
5. Confer with the CDC on the number of antiviral doses Hawai`i will receive (if available) and date of receipt.
6. Identify and activate, as needed and if possible (given limited supplies), treatment centers.
7. Coordinate security through State Civil Defense EOC upon notification of antiviral arrival date to ensure secure transport, storage, delivery, and distribution.
8. Distribute allocated doses to Counties; the HDOH will coordinate with health care providers through the DHOs for directed treatment.
9. Track all antiviral doses distributed.
10. Provide antiviral treatment according to the priority list approved by the Director in consultation with the State Epidemiologist and other advisors in the DOC.
11. Monitor the susceptibility of the circulating influenza strain to the available antivirals.
12. Monitor for adverse reactions to antivirals administered for treatment.
13. Request re-supply of antivirals and supplies, if needed and available, from the SNS.
14. Regularly review and confer with the CDC on the rapidly changing scientific evidence to provide updated public health information, recommendations, and options for treatment with antivirals.

E. Postpandemic period

1. Deactivate operations associated with the pandemic.
2. Recover assets from the operations.
3. Conduct post-evaluation of the pandemic response with all agencies.
4. Assess the effectiveness of antiviral treatment.
5. Revise Hawai`i Pandemic Influenza Preparedness & Response Plan based on the above evaluation.

Section 5. ISOLATION AND QUARANTINE

I. INTRODUCTION

A. Objective. To outline the plan to limit the transmission of pandemic influenza virus by utilizing methods of isolation and quarantine.

B. Definitions

1. Isolation is the separation of persons who have a specific infectious illness from those who are healthy and the restriction of their movement to stop the spread of that illness.

    a. This is usually done in a hospital setting but may also be implemented at home or in a dedicated isolation facility.
    b. Isolation may be applied to an individual level or to groups.

2. Quarantine is the separation and restriction of movement of persons who, while not yet ill, have been exposed to an infectious agent and therefore may become infectious.

    a. May be applied at the individual or community level and may be implemented in the home setting or in a dedicated quarantine facility.
    b. The purpose of quarantine is to stop the spread of infectious disease.
    c. Quarantine, in turn, also requires a clear definition of the term *close contact* or what constitutes an exposure to determine when a person is to be quarantined.

3. Community-based control measures may be designed to reduce the risk of disease transmission by limiting the potential for social interactions (e.g., canceling public events, limiting public transportation, restriction of movement of segments of the community) and by preventing inadvertent exposures in public or common daily experiences (e.g., fever monitoring before entering place of congregation such as schools, use of masks, community-wide quarantine).

    a. The effectiveness of these community measures has not been completely evaluated.
    b. Community-based control measures may also be used to delay the spread of disease and allow more time for the development and production of vaccines and antiviral drugs.

C. Assumptions

1. After the initial detection of the pandemic virus, the public may be faced with vaccine unavailability for an undetermined, but conceivably, prolonged length of time.
2. Also faced with an extremely limited supply of available antivirals, public

health measures of isolation, quarantine, and general public health containment may need to be considered as options for slowing the spread of influenza.

3. In the State of Hawai`i, pursuant to existing statutory language, any reference to "Quarantine" automatically includes "Isolation" within the scope.
4. Controlling exposure to influenza may be difficult due to:

   b. Today's highly mobile society
   c. The likely short incubation period of 1-3 days for the virus
   d. The period of communicability beginning prior to onset of symptoms

5. While Federal law has authority to prevent interstate and international travel and importation, government at the State level in Hawai`i has the primary responsibility for the implementation of isolation and quarantine measures within its jurisdiction.
6. If a large proportion of the population becomes ill with the pandemic influenza virus and a likely shortage of personnel to monitor and enforce mandatory containment measures occurs, the CDC may recommend voluntary home quarantine when possible, with exposed persons checking themselves for fever and reporting early symptoms to public health authorities.
7. Personal hygiene measures such as handwashing and recommendations for personal protective equipment (PPE) such as masks will likely also be included in recommendations to the community to help limit transmission.
8. Most people will likely follow self-quarantine and home quarantine recommendations provided by the HDOH and the CDC, especially when they understand that those in quarantine will be more accessible to receive supplies and necessary health care.
9. If, however, individuals are unwilling to isolate or quarantine themselves voluntarily when requested, Hawai`i Revised Statute (HRS) 325-9 makes it clear that State law enforcement entities have the authority and duty to enforce isolation and quarantine orders. They have the authority to use such force as is "reasonably necessary."
10. Public health and law enforcement responders involved in enforcement of quarantine orders will be provided appropriate PPE and related training by their respective agencies as recommended by the CDC.
11. By law, all isolation and quarantine orders must include the length of time for the isolation and quarantine periods.
12. The Director of Health is responsible for determining and justifying the isolation and quarantine time periods.

II. SELF-QUARANTINE AND GENERAL PUBLIC HEALTH CONTAINMENT MEASURES

Key to the successful implementation of self-quarantine and public health

containment efforts is full public support and understanding through focusing on communication and collaboration with the general public in the State.

A. Consistency in implementation

1. Necessary to retain public support. Inconsistent implementation may undermine the public confidence in health officials and their policies and impact the credibility of the use of quarantine and public health containment measures.
2. Facilitated by proper use of an ICS structure that is compliant with the NIMS, including the proper operation of the HDOH DOC (Refer to Section 1 of this Plan).

B. Continuous public communication and education

1. More likely to be successful when a plan has been developed and approved in advance of a pandemic by a review process that includes both subject matter experts and the general public.
2. Most public communication activities about influenza take place immediately preceding and during the typical influenza season from October to May of each year. May provide a base for further and more intensive public information and communication during an influenza pandemic.
3. Keeping the public continuously informed at all stages will help raise public support when initiating measures such as self-quarantine and containment in community activities and movement.
4. Section 8 of this Plan addresses the specifics of the HDOH communication and public information plan during a response to pandemic influenza.

III. ISOLATION – CONCEPT OF OPERATIONS

Isolation is much easier to understand, accept, and implement than quarantine. The reason for isolation is clear: there is a need to keep separate an ill and contagious person from the well population. Isolation facilities may include homes, hospitals, and/or alternative facilities in the community such as nursing homes, motels, or tents.

A. Levels of isolation

1. The first patients presenting in Hawai`i with the novel influenza virus most likely will be isolated in isolation rooms in a hospital setting.
2. When hospital isolation beds have reached capacity and influenza cases continue to increase, the next level of isolation may be in mobile acute care modules established near hospitals and staffed by hospital personnel to provide surge capacity.

3. The third level of isolation will take place in cohort facilities that will provide living quarters for a number of people all ill with the same disease, in this case, the novel influenza virus.
4. The increasing levels of isolation will provide for the increasing numbers of ill patients. However, the added complexity may compromise effectiveness of isolation and quality of medical attention.
5. When the number of influenza cases increases to the point where cohort facilities are needed, the HDOH will remind the public that they may receive more attentive care, be less likely to be exposed to other infections, and be less likely to infect others if they remain at home after becoming ill.

B. Isolation facility requirements

1. Most acute care hospitals in Hawai`i have one or more isolation beds or are in the process of upgrading rooms to become isolation rooms that conform to guidelines from the CDC and the Healthcare Infection Control Practices Advisory Committee.
2. Although airborne precautions are not currently recommended for influenza-infected persons, it is possible that characteristics of a novel virus may require some level of airborne precautions. Therefore, facilities with negative pressure capacity are desirable.
3. When persons requiring isolation cannot be accommodated either at home or in a health care facility, a community-based facility for isolation will be required.

    a. The availability of a community-based facility will be particularly important during a large outbreak.
    b. Potential sites for isolation should be identified and evaluated in advance of an outbreak as part of preparedness planning.
    c. An assessment team will identify appropriate locations and resources for community isolation facilities, establish procedures for activating them, and coordinate activities related to patient management.
    d. The team should consider the use of both existing and temporary structures.

        i. Options for existing structures include community health centers, nursing homes, apartments, schools, dormitories, and hotels.
        ii. Options for temporary structures include trailers, barracks, tents, and “bubble systems.”

    e. Features to consider in site and facility selection include:

        i. Size of facility and rooms
        ii. Ability to provide strict standard and droplet isolation precautions
        iii. Ventilation system separate from all other buildings (therefore,

capacity for airborne precautions if necessary)
iv. Onsite showers for patients
v. Provision of infection control facilities for hospital staff, such as gowning/de-gowning areas, changing rooms, shower facilities, and widely available handwashing basins or waterless hand sanitizers
vi. Controlled access
vii. Food service
viii. Laundry service
ix. Telephone to allow patients contact with family and friends
x. Waste disposal procedures
xi. Procedures to monitor staff's health

4. When ill persons are asked to isolate themselves at home, these additional recommendations should be made to both the ill and their family members:

   a. Persons should remain at home during their illness (usually four to five days after their symptom onset)
   b. Restrict visitors to the home
   c. Patients should cover their nose and mouth when coughing or sneezing, dispose of any used tissues immediately after use, and should wash their hands after using tissues
   d. Family members should immediately wash their hands after any contact with the ill person, linens from the ill patient, or any tissues or handkerchiefs
   e. Persons entering the homes of suspected influenza patients should wear a surgical mask when coming within three feet of the ill patient, and should wash their hands after any contact with the patient and before leaving the home

C. Authority

1. Pursuant to the provisions of Hawai`i Revised Statutes Chapter 325-8 (HRS 325-8), the Director of Health and the HDOH have authority, separate from the Governor's authority identified in HRS 128-8, to require isolation of an individual in this situation.
2. The Director of Health will have primary authority for implementation of the Hawai`i Pandemic Influenza Preparedness & Response Plan, including recommendations and request for isolation and quarantine, with guidance from the State Epidemiologist.
3. As the pandemic threat escalates and in the event that it becomes a civil defense emergency requiring resources outside of the control of the Director of Health, the Governor and State Civil Defense will become involved.
4. In a civil defense emergency period, HRS 128-8 applies and provides for the suspension of any law that "tends to impede or be detrimental to the

expeditious and efficient execution of, or to conflict with, civil defense or other emergency functions…"

D. Notification and communication

1. Notification and communication of isolation (and quarantine) requirements will follow the same protocols between the HDOH and other State agencies.
2. The HDOH will reach clinicians through the HDOH broadcast fax and email system used for health notifications.
3. Multiple media sources, such as television, radio, newspapers, and the HDOH website, will be used to send announcements to the public.

E. Enforcement. Enforcement mechanisms would be the same as those identified in IV.E. below.

F. Additional planning considerations. The HDOH and other State and Federal partners must address and plan for possible human cases of influenza on board international transport (airplanes and boats).

IV. QUARANTINE – CONCEPT OF OPERATIONS

Quarantine, unlike isolation, is a very complex measure as it raises a number of serious issues concerning public health, public health law, and public policy. Quarantine can be resource and labor intensive, taxing the reserves of virtually every area within the State such as health care, public health, social service, and law enforcement.

A. Types of quarantine

1. The primary strategy will be voluntary home quarantine. However, alternative quarantine sites may be needed if contacts do not have an available and appropriate home environment.
2. Work quarantine may also be considered as was used in Toronto during the SARS epidemic of 2003.
   a. Applies mainly to health care workers or other essential personnel who have been exposed to cases, but who may need to continue working.
   b. Quarantined either at home or in a designated facility during off-duty hours.
3. If needed, the HDOH DOC and the Director of Health, as Incident Commander, will identify alternative quarantine sites based on a number of considerations (many of which are similar to isolation considerations) including:
   a. Scope of pandemic
   b. Size of facility/room/site
   c. Controlled access

d. On-site showers
e. Food service
f. Laundry service
g. Telephone to allow patients contact with family and friends
h. Waste disposal procedures
i. Procedures to monitor staff's health

B. Authority. The authority is the same as that provided for Isolation needs and is described in III.C.

C. HDOH due process plan

1. A significant concern during any situation where quarantine is required and necessary to stop the spread of an infectious disease, is the protection of individual rights.
2. HRS 325-8 lays out in detail the steps that will be taken should a need arise to quarantine an individual or group of individuals (Appendix R).
3. All actions will be coordinated with the Counties via the DHOs and County EOCs.
4. The HDOH legal counsel at the Department of the AG will be responsible for all matters related to these court proceedings. They have drafted a template for an "Ex Parte Petition for Order of Quarantine" to have available should the need arise (Appendix S).

D. Support services

1. During quarantine, movement will be restricted to the area of quarantine.
2. Physical as well as mental health becomes a concern.
3. In anticipation of this need for related public health emergencies, a Memorandum of Agreement between HDOH and the American Red Cross-Hawai`i Chapter has been established.
4. The HDOH will discuss and collaborate with various nonmedical officials to encourage their planning for the implementation of measures to facilitate adherence to quarantine (e.g., tele/internet commuting for work and/or school). Such has been shown to be integral to ensuring effective quarantine measures.[6]

E. Enforcement

1. As part of the quarantine instructions provided to an affected individual, an HDOH representative may make at least two randomly timed phone calls to the quarantined person each day.
2. When phone calls fail to reach the quarantined individual, an HDOH

[6] DiGiovanni C, Bowen N, Ginsberg M, Giles G. Quarantine Stressing Voluntary Compliance. Emerg Infect Dis. 2005;11(11):1778-1779.

response member, trained in the use of appropriate PPE and related equipment, will be sent to make an in-person visit to the quarantined individual for the purpose of ensuring compliance or confirming non-compliance.
3. If an in-person visit confirms non-compliance by the absence of the individual, pursuant to HRS 325-9, law enforcement has the authority to locate and confine individuals in violation of the quarantine order, using reasonable force.

V. COMMUNITY-BASED CONTROL MEASURES

A. Underlying issues

1. Based on past experience and history, there is a need to define what constitutes a public gathering and what situations would create opportunities for "close contact."
2. Implementation of aspects of this measure should take into consideration these determinations and be consistent with the severity and phase of the pandemic.
3. There are a myriad of situations and settings that could constitute a public gathering, including:

    a. Childcare situations
    b. Schools and other educational settings
    c. Workplaces
    d. The public transit system
    e. Places of worship
    f. Community events
    g. Homeless shelters
    h. Other enclosed areas where people potentially congregate

4. Depending on the severity and the pandemic phase, general public health containment strategies could range from recommendations to the public to remain at home or avoid crowds to mandatory closure of schools and public buildings and cancellation of public activities and events.

B. Initial strategies. Dissemination of recommended actions to the general public shall include:

1. Avoidance of large public gatherings, as defined by the Director of Health in consult with the State Epidemiologist and other advisors.
2. Potential limitation or modification of Federal, State, County, and private work environments and hours (e.g., recommendations to utilize internet commuting).
3. Potential limitation or modification of travel and transportation.

C. Specific strategies. Consistent with the pandemic phases, the Director of Health in consultation with the State Epidemiologist, other advisors in the HDOH DOC, and other key emergency response partners in the State EOC, will specify the time period within which the following strategies will take place:

1. Communicate public education messages that address:

    a. Postponement of non-essential travel
    b. Avoidance of crowds and other public gatherings
    c. Use of basic hygiene techniques, including handwashing and cough etiquette

2. Federal travel advisories and alerts.
3. Cancellation/postponement of public events/large public gatherings (through the State EOC)
4. Closure of schools, non-essential government offices, and other functions within the community that could act as a barrier to an effective response (through the State EOC)
5. Issuance of public and private transportation recommendations and guidelines

    a. Restriction of use of private vehicles (through the State EOC)
    b. Restriction of mass transit schedules (through the State EOC)
    c. Closure of major access roads/routes (through the State EOC)

Section 6. HEALTH CARE DELIVERY

I. INTRODUCTION

A. Objective. To outline the actions that will be undertaken by Hawai`i hospitals and other major clinical facilities when faced with an influenza pandemic and the resulting overwhelming demand for services. The specific goals of the health care delivery system during an influenza pandemic include:

1. Early detection of new and existing cases will be enhanced by rapidly transitioning from passive to active surveillance.
2. Hospitals will take prompt and well-coordinated initial actions designed to reduce the potential for institutional disease transmission and focused on protecting the health care workforce.
3. Clinical care and services to existing (non-influenza) and influenza patients will be prioritized and provided within the context of available resources.
4. Active management of critical resources will be initiated including staffing, equipment, supplies & pharmaceuticals, and clinical venues.
5. Operational and doctrinal alignment will be established and maintained between public and private hospitals with the HDOH in the lead role.
6. Public information and other communications shall be coordinated by the HDOH with input from community practitioners and hospitals.

B. Background

1. Organization. Hawai`i hospitals maintain a collaborative relationship via the HAH with the HDOH on matters of public health emergency preparedness. The full detail of health care emergency preparedness and response is articulated in the *Hospital Services Coordinating Plan,* also known as Annex 'H' of the HDOH Emergency Preparedness Plan and a component (known as 'Volume I') of the Emergency Management Plans of all hospitals.
2. Perspective. From the perspective of public health emergency preparedness, Hawai`i and its unique, remote geography suggests a large, highly vulnerable population that is physically remote from traditional sources of mutual assistance.

    a. There are no nearby large cities or Border States that are capable of providing timely emergency assistance.
    b. Given the State is comprised entirely of individual Island-Counties separated by open ocean, even mutual assistance among neighboring Counties requires innovative strategies, detailed planning, and a high degree of self-sufficiency.

3. Routine health care operations. Hawai`i hospitals operate year around with average daily census (ADC) often exceeding ninety percent (90%).

a. The majority of acute care hospitals with specialty services are located on the island of Oahu resulting in a significant dependence on aero medical transportation for even routine, non-emergent specialty care.
b. The Queens Medical Center is the only Level II trauma center in the State (i.e., this level denotes a trauma center that does not conduct research, as defined by the American College of Surgeons).

4. Threat and Impact. Of the many high-risk, high-vulnerability hazards identified by the 2005 Hazard Vulnerability Analysis, none appears to present a greater risk to the population and to Hawai`i hospital services than an influenza pandemic.

   a. Using the CDC *Flu-Surge* hospital bed capacity planning tool, the HDOH and HAH were able to model the consequences to hospitals of an influenza outbreak at the local (County area) and State levels.
   b. Using parameters[7] recommended by CDC influenza planners[8], *Flu-Surge* demonstrated that Hawai`i hospitals would experience severe adverse consequences during the course of an 8-week outbreak:

      i. Nearly 1,000 in-hospital deaths
      ii. Nearly 5,000 additional hospital admissions
      iii. 85% of all available intensive care unit (ICU) beds and half of all mechanical ventilators would be dedicated to the care of influenza patients. The counties of Maui (132%) and Kauai (158%) would experience much higher rates

Influenza Pandemic Impact / Weeks		1	2	3	4	5	6	7	8	9	10
Hospital Admission	Weekly admission	286	476	714	905	905	714	476	286		
	Peak admission/day				141	141					
Hospital Capacity	# of flu patients in hospital	286	476	714	905	951	875	677	447		
	% of hospital capacity used	11%	18%	26%	33%	35%	32%	25%	16%		
ICU Capacity	# of flu patients in ICU	43	91	140	184	200	194	154	106		
	% of ICU capacity used	18%	39%	59%	78%	85%	82%	65%	45%		
Ventilator Capacity	# of flu patients on ventilators	21	45	70	92	100	97	77	53		
	% usage of ventilator	9%	18%	28%	37%	41%	39%	31%	22%		
Deaths	# of deaths from flu			56	93	140	177	177	140	93	56
	# of flu deaths in hospital			39	65	98	124	124	98	65	39

State of Hawai`i Flu-Surge findings, July 2005

   c. While the timing and true extent of a potential pandemic event are unclear, the resulting data are compelling. The findings of the Flu-Surge tool and related planning factors are carefully considered when

[7] 25% attack rate over an 8-week period. Hospital input values (beds, ventilators) were updated in May 2005 and reflect a maximum ± 5% margin of error
[8] CDC Pandemic Influenza Planning Conference, Denver, Colorado, February, 2005

preparing the *Hospital Services Coordinating Plan*, and the *Hawai`i Bioterrorism Hospital Development Plan*[9].

C. Assumptions.

1. During an influenza pandemic, there will be an increased demand for hospital-based clinical services due to the large number of patients who will present with severe illness.

    a. Patient demand will slowly emerge and progressively saturate clinical venues and resources (beds).
    b. Given that the design of hospital facilities and services is based on typical non-emergency patterns of utilization, extraordinary demand could easily result in an inability to meet expected levels of access and care.

2. Up to 25% of health care workers will be lost due to illness and other factors.
3. Adjustments in the standard of care will be necessary to optimize the balance between available resources and patient demand.
4. As hospital ICUs saturate with high-acuity, ventilator-dependent patients, non-ICU spaces in hospitals will need to intensify to accommodate patient demand.
5. The early actions of hospitals to cope with increasing demand will likely become ineffective entering the second week of the outbreak.
6. Antivirals will not be available in sufficient amounts to mitigate the demand for hospital care and services.
7. Neighbor island hospital facilities will experience a greater gap between patient demand and available resources.
8. Mortality from the novel pandemic influenza virus is likely to be high. Therefore, the mortality rate may exceed the routine capacity to appropriately inter bodies.
9. Augmentation from the mainland United States will be either significantly reduced or unavailable as the pandemic reaches into large urban mainland cities.

II. PREPARATION AND RESPONSE

A. Basic organization. The response of hospitals and other major clinical facilities is phased and functions within the context and organization of the HDOH.

1. Operationally, hospitals are coordinated by a qualified representative of the HAH under the authority of the HDOH within the structure of the

[9] Prepared annually in response to HRSA National Bioterrorism Hospital Preparedness Program guidance.

HDOH Department Operations Section (Hospital Coordination).
2. This coordination is an on-going, continuous process escalated from a virtual to a physical entity when directed by the Director of Health.

B. Interpandemic period. The interpandemic period (phases 1 and 2) represents the 'resting' state of emergency operations. Hospitals and other health care agencies will focus on aggressive public health emergency preparedness planning, preparation, and training. Current, ongoing activities include:

1. Integration of the influenza pandemic threat into existing and new emergency management plans in hospitals and other major clinical facilities.
2. Enhancement of the surveillance activities of hospitals, Emergency Medical Services, major outpatient clinical facilities, and community health centers.
3. Regular education of hospital leaders and clinical staff on matters of public health emergency preparedness with a focus on acts of terrorism and pandemic influenza emergency response operations.
4. Aligning the development efforts articulated in the *Hawai`i Bioterrorism Hospital Development Plan*. Specifically, this includes the acquisition of emergency supplies such as disposable PPE, equipment such as ventilators, and facility upgrades such as increasing the quality and quantity of negative airflow, HEPA-filtered isolation rooms.
5. Deliberate and concerted efforts to increase the rate of annual health care worker influenza vaccination.
6. Development of a volunteer health professional recruitment, screening and credentialing, and assignment program that includes Hospital Emergency Response Team members, the Hawai`i DMAT, and the Medical Reserve Corps[10].
7. Professional education and training of Hospital Emergency Response Team members.

C. Pandemic alert period. Once a *Pandemic Alert* is issued by the CDC through the HDOH, hospitals and other major clinical facilities will immediately initiate emergency operations at Level I; such operations will ensure maintenance of their physical (critical) infrastructure.

1. During Level I operations, hospitals are brought to a specified level of readiness in anticipation of casualty care operations.
2. Activities initiated and sustained include:

    a. Maintaining all of the activities outlined for the interpandemic period

[10] Health Resources and Services Administration's Emergency Systems for Advance Registration of Volunteer Health Professionals (ESAR-VHP) program.

(see II.B).

b. Providing frequent briefings to hospital leaders, clinical staff, and response teams regarding situation and operational options.
c. Providing just-in-time education to clinical staff and distributing literature describing clinical manifestations, diagnosis, and management of the pandemic influenza.
d. Transitioning from passive to active surveillance.
e. Posting of HDOH-provided case definitions in all patient intake areas.
f. Reviewing plans and procedures.
g. Updating notification and recall lists of volunteer health professionals.
h. Providing information to health care workers regarding family emergency preparedness.
i. Initiating focused screening and triage of all patients seeking care at hospital Emergency Departments, urgent care centers, outpatient primary care offices, and community health centers.
j. Managing all suspect cases in accordance with hospital procedures for infectious (respiratory) disease patients including the use of isolation, PPE, and respiratory hygiene.
k. Providing influenza vaccination to all high-risk health care workers and others integral to the pandemic influenza response plan, as is available. (Antiviral prophylaxis, as stated previously in this Plan, is unlikely to be possible, but in the event that a limited amount is available for such, it will be administered on a case-by-case basis through the HDOH.)
l. Cooperating with State and Federal officials regarding necessary actions to contain and prevent the transmission of pandemic influenza in institutional and community settings.
m. Conducting a physical inventory of all HAH-managed equipment and supply caches.

D. Pandemic period. Hospitals and other major clinical facilities will escalate their operations to Level II – full contingency operations. The following activities will be initiated and maintained:

1. Maintaining all appropriate activities outlined in the interpandemic and pandemic alert periods (II.B and II.C, respectively).
2. Activating the HAH EOC on a 24/7/365 basis and providing a qualified, decision-making representative to the HDOH DOC.
3. Requesting the activation of all Hospital EOCs (HEOCs) statewide.
4. Coordinating facility access policies and procedures with County law enforcement agencies to enhance facility (critical) infrastructure protection.
5. Recommending that all acute care hospitals establish and maintain a 'managed corridor' to their facilities with fully-staffed patient, staff, and visitor screening procedures.
6. Mobilizing one or more 20-bed acute care modules or ACMs as

staffing permits to augment neighbor island inpatient services and provide cohort isolation.

7. Mobilizing the Hawai`i DMAT either as a State team or request Federal authorization to mobilize as a Federal National Disaster Medical System team. The team would be pre-positioned in the Honolulu area and deployed where needed.
8. Recommending all hospitals and long-term care facilities restrict non-essential access to their facilities.
9. Initiating a once-daily conference call with all HEOCs and maintaining real-time communication using WebEOC.
10. Distributing elements of the HAH-managed hospital caches as needed.
11. Adjusting hospital standard of care in accordance with current and future patient demand.
12. Implementing family and caregiver just-in-time education as needed.
13. Augmenting telephone advice processes of hospitals and outpatient facilities to maximum degree.
14. Coordinating the medical support of home-isolated individuals by providing essential pharmaceuticals and access to their family physician.
15. Coordinating all public information through the HDOH DOC PIO.
16. Facilitating the disposition of the dying and dead by:

    a. Anticipating the need for additional palliative antemortem care and morgue space.
    b. Facilitating the rapid interment of dead bodies after appropriate samples are collected and/or autopsies performed. Refer to the State Plan for Emergency Preparedness, Disaster Response, and Assistance for details. HRS 338-23 requires a written permit for the removal, burial, or other disposition of dead bodies. Should the mortality rate exceed the routine capacity to inter bodies, this law may be suspended should the Governor decide to, under HRS 128-8D, suspend all laws due to the emergency.

17. Coordinating access to the assets of the SNS and national laboratories with the HDOH DOC.
18. Preparing and publishing a Hospital Situation Report or SITREP; providing copies to Chief of Operations and all hospital facilities by 2400 hours each day. This report may be prepared and published on WebEOC.
19. Taking other actions as requested or directed by the Director of Health.

E. Postpandemic period. This period defines the return to the interpandemic period. It is characterized by the activities necessary to restore normal clinical operations and prepare for future events. The following activities will be initiated and maintained during this period:

1. Demobilizing HAH EOC, Hospital EOCs, and all response teams.
2. Providing opportunities for staff and physician rest and personal restoration including indicated post-traumatic stress management.
3. Decontaminating essential facilities and disposing of infectious waste.
4. Progressively re-establishing non-essential medical and surgical services beginning with primary care and outpatient pharmacy services.
5. Completing an accounting of all extraordinary costs and time.
6. Honoring and recognizing all appropriate staff and physicians for their courage and sacrifice – formally and officially.
7. Maintaining a 'fire watch' surveillance program to watch for reemergence of pandemic activity.
8. Repairing and restoring all damaged, modified, or abandoned facilities to pre-operational state.
9. Conducting after-action reviews of key facilities, staff, and other groups.
10. Preparing and publishing a comprehensive operations management report.

Section 7. COMMUNICATIONS

I. INTRODUCTION

A. Objective. To outline the HDOH plans for coordinated communication not only within the HDOH but especially with other State and Federal agencies, government representatives, health care providers and associations, and the public.

B. Assumptions

1. In an emergency situation, accurate, consistent, and timely messages are key in notifying and educating the public.
2. Assuring adequate communication systems will be a joint responsibility of Federal, State, and County agencies.
3. The public will likely encounter some unreliable and possibly false information in the media and on the Internet. The HDOH will communicate accurate and reliable information regarding the influenza pandemic.
4. Mechanisms for communication with the public will vary depending on the phase of the pandemic and its impact on Hawai`i communities statewide.
5. The HDOH will strive to communicate with all essential partners. Keeping all essential partners completely informed throughout the pandemic may be difficult.

C. Duties and responsibilities

1. Maintain a system to effectively communicate with public health officials, health care professionals, and other target audiences to ensure consistent information and messages to the public.
2. Develop and regularly distribute informational updates to the media and all appropriate partners.
3. Advise the Director of Health on public information matters.
4. Develop a list of appropriate media spokespersons from areas of expertise, and maintain current contact information.
5. Monitor and analyze media coverage and correct any inaccurate information reported to the public.
6. Coordinate with State Civil Defense and County Civil Defense to provide accurate and timely information to the media via the state EOC/Joint Public Information Center when activated.
7. Regularly update and maintain the HDOH website with current and useful information.
8. Coordinate and maintain a public hotline for public health information and human services referral.
9. Utilize the Health Alert Network to notify health partners of new developments and share treatment protocols and other relevant information.

10. Translate written information into foreign languages for the public as needed.
11. Provide assistance and support to the Counties in statewide public information planning and in development and dissemination of health and public safety information.

D. Coordination with the DHOs. As the situation gradually escalates to a full-scale pandemic, reliable, coordinated communications between HDOH main operations and the DHOs will be critical. To facilitate this, the DHO activities will include:

1. Developing a communication plan in conjunction with County Civil Defense, response agencies, and hospitals in their area.
2. Coordinating media messages with the HDOH Communications Office.
3. Developing a list of local media contact names and numbers and methodology to quickly send them information.
4. Developing internal protocols on how to gather and distribute information from the HDOH to appropriate DHO staff and County agencies.
5. Establishing a local information hotline and developing a plan to staff a call center.
6. Conducting daily briefings with spokespersons and clinic leaders to determine new information to be relayed to the public. This information should also be relayed to the HDOH for State communications.
7. Developing a system to post current information on the HDOH website.
8. Developing plans for communicating with special populations in the local area.
9. Designating spokespeople for local media.
10. Monitoring and evaluating local media for accuracy and effectiveness.

II. CONCEPT OF OPERATIONS

A. The HDOH Communication Office

1. Responsible for informing the public via the media throughout the pandemic.
2. Will inform and update all public information partners through a web-based notification/Joint Information System (JIS).
3. During the initial stages of a pandemic, will brief the Governor's Communications staff.
4. Once the EOC is activated, will work with the State Civil Defense to implement a JIC.

B. Template press releases and Q&As

1. The HDOH Communications Office will work with the DOCD to prepare talking points for the Director of Health and Governor as needed.

2. Template releases will be prepared to provide information and disseminate it quickly.
3. Timely releases will be sent to the media and all JIS partners for distribution.

III. ACTIVITIES DURING PANDEMIC PERIODS

A. Interpandemic period

1. Communications staff will notify partner agencies through PIOs or other designated contacts using the JIS or the BioTerrorism Readiness Suite (BTRS) web-based notification system.
2. Press materials on current surveillance activity will be developed and disseminated.
3. Communications staff will work with the DIB to develop and maintain messages pertaining to pandemic influenza.
4. Pandemic informational materials/templates will be developed and provided to the DHOs.
5. Health educators will be provided with community outreach materials and presentations for community meetings.
6. A list of spokespersons will be updated and confirmed.
7. Website information will be updated and accessible.
8. Media interview(s) conducted as needed.
9. Media and JIS contact information will be updated.
10. Hotline staff will be trained and provided with informational materials.

B. Pandemic alert period: early phase - isolated cases to small, localized cluster

1. Communications staff will be updated regularly on developments by the DOCD Chief or designate. (Note, if the DOC has been activated, this role will be fulfilled by the designate of the Director, although most likely the Operations Chief.)
2. Communications staff will identify appropriate contacts to be notified of pandemic influenza activity through the JIS, to include: State agencies through PIOs or other designated contacts, health care agencies, DHOs, Federal, State, and County officials.
3. The HDOH Communications staff will contact the Governor's communications staff and coordinate press conferences and media briefings.
4. Communications staff will consult with the State Epidemiologist (or DOC equivalent), to identify and maintain a list of specific target audiences for messages that pertain to pandemic influenza.
5. Communications staff will consult with the State Epidemiologist (or DOC equivalent) to develop and maintain messages appropriate to specific audiences. Separate packages of issues/messages may be developed

around areas including:

a. Vaccine development and supply
b. Isolation and quarantine recommendations
c. Antiviral use
d. Prevention and infection control methods
e. Contact investigations

6. Communications staff will consult with the State Epidemiologist (or DOC equivalent), to develop a disease fact sheet and other informational materials specific to pandemic influenza.
7. Communications staff will maintain a system to effectively communicate with public health officials, health care professionals, and other targeted audiences that will include securing venues for holding:

a. News conferences
b. Media briefings
c. Distance learning
d. Teleconferencing opportunities
e. Other communication-related activities

8. Information (such as brief situation updates, advisories regarding infection control and preventive measures, general informative communications regarding disease, basic information regarding care and comfort needs, any relevant instructions to the community, etc.) will be distributed by:

a. Emergency Medical Services Communications System
b. State Civil Defense warning system
c. Hawai`i Warning System
d. Law enforcement telecommunications systems
e. Nextel cellular phones
f. Virtual Alert System/BTRS
g. DOH Media fax and e-mail lists
h. DOH Resource contact inventory lists for special needs groups
i. DOH Physicians Alert System
j. Aloha United Way 2-1-1
k. American Red Cross

C. Pandemic alert period (late phase - large, localized cluster) to Pandemic period

1. The HDOH Communications Office will issue JIS updates via phone, web, e-mail, and fax, weekly and/or daily as needed. Media updates will take place regularly.
2. The State Epidemiologist will issue alerts to physicians as needed.
3. The HDOH emergency website pages will be activated and updated daily

or as needed.

4. Hotline resources will be activated and identified staff assigned to internal public phone bank.
5. When the State EOC is activated, the EOC's JIC will be activated.

    a. Initial State-level media briefings will be held at the EOC or at the State Capitol, depending upon the Governor's involvement.
    b. Assigned JIC staff are divided into teams focusing on specific public information areas.
    c. Functions of the communication teams will include:

        i. Message content and clearance
        ii. Government and media communications
        iii. Website and hotline management
        iv. Public health partner communication
        v. Identification of spokespersons
        vi. Communication leadership
        vii. Communication with laboratories

    d. Team leaders will meet twice daily to share information and determine communication priorities.
    e. Team leaders will report to the PIO at the HDOH DOC and update partners through the JIS.

6. Activities when the EOC is not activated include:

    a. The DOC may activate a JIC, and HDOH Communications and other staff will be divided into teams focusing on specific audience/communication methods.
    b. Team leaders will be public health educators and risk communication specialists from the HDOH.
    c. Team leaders will meet daily to share information and determine communication priorities.
    d. Team leaders will report to the DOH Public Information Office.

7. In preparation for a potential second pandemic wave, the following activities will continue:

    a. Public awareness and communications strategy effectiveness measured through surveillance and evaluations
    b. Public education through media and community outreach activities

D. Postpandemic period

1. The HDOH Communications Office will work with mental health professionals to craft messages to aid in the recovery efforts.

2. Communications Office will participate in the evaluation of the pandemic response.
3. Public awareness and communications strategy effectiveness will be measured through surveillance and evaluations.
4. Public education through media and community outreach activities will continue.
5. Planning for future influenza public information campaigns will begin.

APPENDICES

Appendix A.
Glossary of Terms

Antibody
A protein produced by the body's immune system that recognizes and helps fight infections and other foreign substances in the body.

Antigen
A substance, foreign to the body, that stimulates the production of antibodies by the immune system. Antigens include foreign proteins, bacteria, viruses, pollen, and other materials.

Antigenic drift
The capacity of influenza viruses to undergo gradual change in their two surface antigens is known as antigenic "drift". This minor change leads to the emergence of new variant strains. Antigenic drift may result in epidemics, since incomplete protection remains from past exposures to similar viruses.

Antigenic shift
Influenza A viruses, including subtypes from different species, can reassort or swap genetic materials and merge. This reassortment process, known as antigenic "shift," results in a novel subtype different from both parent viruses. As populations will have no immunity to the new subtype, and as no existing vaccines can confer protection, antigenic shift has historically resulted in highly lethal pandemics. For this to happen, the novel subtype needs to have genes from human influenza viruses that make it readily transmissible from person to person for a sustainable period.

Antiviral
These are medicines that specifically target viruses. There are currently four antiviral drugs that target influenza (amantadine, rimantadine, zanamivir and oseltamivir). Indications, mechanisms of action, and efficacy differ for each and depend upon the situation for use. All require physician consultation and prescription.

General public health containment
The restriction of movement of certain segments of the community to decrease social contact.

Influenza pandemic
An influenza pandemic occurs with the appearance of a novel influenza virus, against which the human population has no immunity, resulting in multiple, simultaneous epidemics worldwide with high morbidity and mortality.

Isolation
The restriction of movement and separation of the sick or person(s) infected with a contagious disease. This is usually done in a hospital setting but may also be implemented at home or in a dedicated isolation facility. Isolation may be applied at the individual level or may be implemented with groups.

Appendix A.

Quarantine
The restriction of movement and separation of well person(s) presumed exposed to someone who has a contagious disease (i.e., confirmed case of the disease). This may be applied at the individual or community level and may be implemented in the home setting or in a dedicated quarantine facility. The objective is to reduce the incidence of new cases. Quarantine, in turn, also requires a clear definition of the term *close contact* or what constitutes an exposure to determine when a person is to be quarantined.

Novel virus
A novel virus is a virus that has never previously infected humans or has not infected humans for a long time.

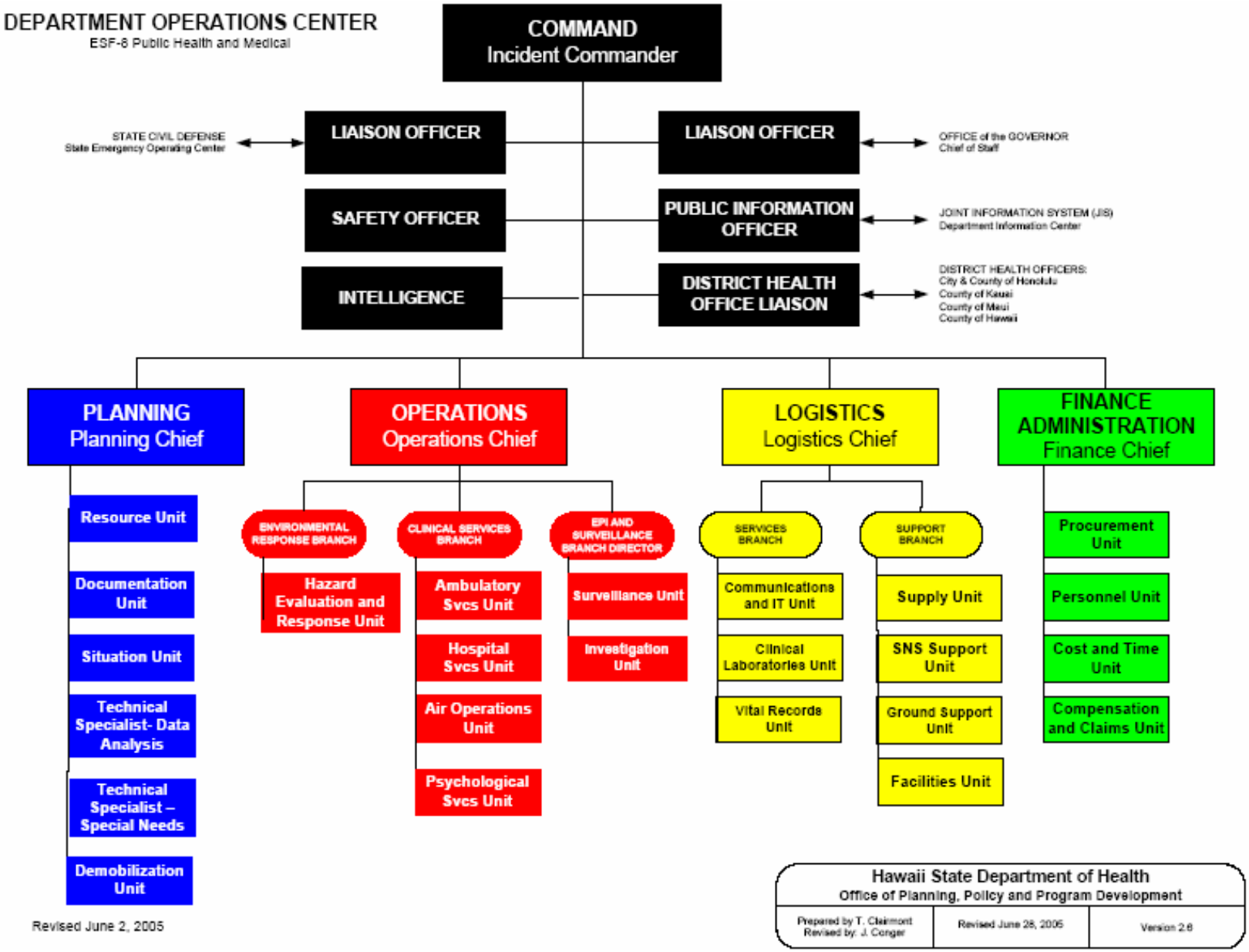
Vaccine
A preparation that contains an antigen, consisting of whole disease-causing organisms (killed or weakened) or parts of such organisms, that is used to confer immunity against the disease that the organisms cause.

About *influenza vaccine*: Every year the WHO Influenza Program convenes meetings to analyze global data on circulating influenza strains and make recommendations, based on degree of difference from previous strains and epidemiologic significance, for the three strains to be used in the vaccine for the coming influenza season. Current method for production of the influenza vaccine requires months and large numbers of embryonated hens' eggs (required to grow and sufficiently expand the number of virions that will be inactivated and used as antigens in the vaccine).

Appendix B.
List of Acronyms

AG	Attorney General
APSTPHLD	Association of State and Territorial Public Health Laboratory Directors
BTRS	BioTerrorism Readiness Suite
CDC	Centers for Disease Control and Prevention
CSTE	Council of State and Territorial Epidemiologists
DHO	District Health Office
DIB	Disease Investigations Branch
DMAT	Disaster Medical Assistance Team
DOC	Department Operations Center
DOCD	Disease Outbreak Control Division
DOHIC	Department of Health Information Center
EFS	Emergency Support Function
EOC	Emergency Operations Center
HEOC	Hospital Emergency Operations Center
HAH	Healthcare Association of Hawai`i
HDOH	Hawai`i Department of Health
HHS	(Department of) Health & Human Services
HQS	Honolulu Quarantine Station
HRS	Hawai`i Revised Statute
IC	incident commander
ICS	incident command system
ICU	intensive care unit
ILI	influenza-like illness
JIC	Joint Information Center
JIS	Joint Information System
NACCHO	National Association of County and City Health Officials
NIMS	National Incident Management System
PIO	public information officer
PHN	Public Health Nursing
PPE	personal protective equipment
QAMS	Queen's Airport Medical Staff
RT-PCR	reverse transcriptase-polymerase chain reaction
SARS	Severe Acute Respiratory Syndrome
SITREP	Situation Report
SLD	State Laboratories Division
SNS	Strategic National Stockpile
WHO	World Health Organization

Appendix C. HDOH Operations Center Concept of Operations



Appendix D.
Key HDOH Areas Contact Information

Director's office	586-4410
Deputy Director	586-4412
Deputy, Health Resources	586-4433
Deputy, Environmental Health	586-4424
Deputy, Behavioral Health	586-4416
Communications	586-4442
Disease Outbreak Control Division	586-4586, 586-5386
Disease Investigation Branch	586-4586
Immunization Branch	586-8300
Bioterrorism Preparedness & Response	587-6845
Community Health Division	587-4748
Public Health Nursing Branch	586-4618
Bilingual Health Services	832-5685
Emergency Medical Service System	733-9210
Environmental Health Services Division	586-4576
State Laboratories Division	453-6655
Medical Microbiology	453-6700
Bacteriology/Parasitology	453-6706
Mycobacteriology/Mycology	453-6707
Virology	453-6705
Bioterrorism Response Laboratory	453-5990
Environmental Health Analytical Services	453-6671
Environmental Microbiology	453-6601
District Health Office of Hawai`i	808-974-6006
District Health Office of Kauai	808-241-3614
District Health Office of Maui	808-984-8200

Appendix E:
Influenza Surveillance Protocol

Table of Contents

1. Background

Influenza Description
Incubation period 2 days (range 1-5 days). Severity of illness depends on prior experience with related variants. Abrupt onset of fever, myalgia, sore throat, nonproductive cough, headache.

Transmission
Airborne spread predominates in closed places. Transmission may also occur through direct contact as the virus survives for hours in the cold and at low humidity. Influenza is spread from person-to-person by transfer of respiratory secretions from an infected person. Most cases are spread though inhalation of small, airborne, virus-containing respiratory secretions.

Pathogenesis
Respiratory transmission of virus. Virus replication occurs in respiratory epithelium with subsequent destruction of cells. Viremia usually not demonstrable on first day of infection. Viral shedding occurs in respiratory secretions for 5-10 days.

Immunity
Immunity to influenza has been demonstrated to last for several years. Immunity occurs with heterologous but serologically related types of influenza viruses. Infections of influenza viruses of similar antigenic structure provide some immunity to other influenza viruses with similar surface protein structures and thus may reduce the development of febrile illness. (i.e. those infected with A/Hong Kong/68 (H3N2) demonstrated immunity later to A/Victoria/75 (H3N2).

Culture Confirmation
Virologic confirmation of infection requires demonstration of virus in respiratory secretions. Nasopharyngeal, nasal washes and throat swabs are optimal specimens for culture isolation. Primary monkey kidney cells (MK2 cells) are sensitive for most influenza viruses. Isolation is detected by hemadsorption (HAd) and identified in Had-inhibition and immunofluorescence.

Carriage: None.

References
Evans, Alfred, Eds. 1991.Viral Infections of Humans. Third Edition. Chapter 15-Influenza Viruses. Plenum Medical Book Company: New York.

2. Diagnosis and Laboratory Methods

Obtaining a Specimen for Diagnosis of Influenza
Specimens must be taken within 72 hours of onset. Throat or nasopharyngeal swab or wash, sputum, bronchial washings, bronchoalveolar lavage using cotton

or Dacron swabs. For throats, avoid the tongue and buccal mucosa when swabbing the palatine tonsils and posterior wall of the pharynx. For nasopharyngeal culture, either swab posterior nasopharynx and nasal turbinates or do a nasal washing by instilling sterile saline into each nostril and aspirating with clean bulb syringe. Specimens should be placed into viral transport medium and kept cold at all times. Do not freeze specimens.

Culture for Isolation of Influenza

Influenza virus can readily be isolated in embryonated chicken eggs or in MDCK or primary porcine kidney cell lines. Cell cultures are reported to give equivalent sensitivity to embryonated chicken eggs and are easier to maintain in the laboratory. Isolation is among the most sensitive detection methods available but is slow; allow 2-3 weeks for isolation and characterization. Refrigerated nasal, throat, and nasopharyngeal swabs in transport medium are suitable specimens. Specimens should be collected from febrile, acutely affected suspected cases because virus is shed in nasal secretions for only 3-5 days after infection, however specimens should be collected within 72 hours of onset for ideal levels of viral shedding.

Culture isolation is the current method of detection used by Hawaii State Laboratories Division, and is performed year-round.

Use of Polymerase Chain Reaction (PCR) to Detect Influenza in Clinical Specimens

Currently the Hawaii State Laboratory Division has the capacity to detect influenza and respiratory virus pathogens that may be associated with a clinical presentation indistinguishable from Severe Acute Respiratory Syndrome (SARS) Coronavirus using Real time *Taq*Man RT-PCR. If a case is also a suspected of SARS, avian influenza, or other novel virus the specimen should identified as such **prior** to being received by SLD so that possible PCR screening can be performed. The bioterrorism unit of SLD is currently capable for screening for SARS, influenza A, and influenza B only on specimens meeting the criteria (high risk groups and/or outbreak occurrences) and case definition set by the Disease Investigation Branch (DIB) of the Disease Outbreak and Control Division of the Department of Health will be tested.

(See *Specimen Requirements for Influenza A (Flu A), Influenza B (Flu B), Adenovirus, Detection and Identification by real-time Taqman Reverse Transcriptase (RT) Polymerase Chain Reaction PCR* document**)**

Serology

Serum samples also can be tested for influenza antibody to diagnose recent infections. Two samples should be collected per person: one sample within the first week of illness and a second sample 2-4 weeks later. If antibody levels increase from the first to the second sample, influenza infection likely occurred. Because of the length of time needed for a diagnosis of influenza by serologic

testing, other diagnostic testing should be used if a more rapid diagnosis is needed. This method of testing should be used as a final measure in the absence of any other specimens collected. This diagnostic method is no longer performed by SLD. Culture specimens should be the primary choice of influenza diagnosis.

References

CDC/NCID "Laboratory Diagnostic Procedures for Influenza" website: http://www.cdc.gov/ncidod/diseases/flu/flu_dx_table.htm Accessed on: 7/3/03.

Jim Collins, DVM, Ph.D., Diplomate, ACVP Marie Gramer, DVM Kurt Rossow, DVM, Ph.D. Veterinary Diagnostic Laboratory College of Veterinary Medicine University of Minnesota St. Paul, Minnesota "Diagnostic Methods for Detection of Swine Influenza Virus"http://www.pfizer.com/ah/livestock/pork/Article.asp-ArticleID=10000530&CategoryID=10000073.htm Accessed on: 7/16/03.

Table 1: Influenza Diagnostic Table

Influenza Diagnostic Table				
Procedure	**Influenza Types Detected**	**Acceptable Specimens**	**Time for Results**	**Point-of-care market**
Viral culture	A and B	NP swab[2], throat swab, nasal wash, bronchial wash, nasal aspirate, sputum	5-10 days[3]	No
Immunofluorescence DFA Antibody Staining DFA Antibody Staining	A and B	NP swab[2] , nasal wash, bronchial wash, nasal aspirate, sputum	2-4 hours	No
RT-PCR[5]	A and B	NP swab[2], throat swab, nasal wash, bronchial wash, nasal aspirate, sputum	1-2 days	No
Serology	A and B	Paired acute and convalescent serum samples[6]	>2 weeks	No
Enzyme Immunoassay (EIA)	A and B	NP swab[2], throat swab, nasal wash, bronchial wash	2 hours	No
Rapid Diagnostic Tests				
Directigen Flu A (Becton-Dickinson)	A	NP swab[2], throat swab, nasal wash, nasal aspirate	<30 minutes	Yes
Directigen Flu A+B (Becton-Dickinson)	A and B	NP swab[2], throat swab, nasal wash, nasal aspirate	<30 minutes	Yes
FLU OIA (Thermo BioStar)	A and B[4]	NP swab[2], throat swab, nasal aspirate, sputum	<30 minutes	Yes
NOW Flu A Test NOW Flu B Test (Binax)	A B	Nasal wash, NP swab[2] Nasal wash, NP swab[2]	<30 minutes <30 minutes	Yes Yes
QuickVue Influenza Test (Quidel)	A and B[4]	Nasal swab, nasal wash, nasal aspirate	<30 minutes	Yes
ZstatFlu (ZymeTx)	A and B[4]	Throat swab	<30 minutes	Yes

1. List may not include all test kits approved by the U.S. Food and Drug Administration
2. NP = nasopharyngeal
3. Shell vial culture, if available, may reduce time for results to 2 days
4. Does not distinguish between influenza A and B types
5. RT-PCR = reverse transcriptase polymerase chain reaction
6. A fourfold or greater rise in antibody titer from the acute- (collected within the 1st week of illness) to the convalescent-phase (collected 2-4 weeks after the acute sample) sample is indicative of recent infection.

Storage and Shipping Influenza Isolate to the CDC Influenza Laboratory
See Procedural Manual Medical Microbiology at SLD.

3. Treatment and Chemoprophylaxis

For mild illness in people who are not at high-risk (not immunosuppressed, elderly, no chronic heart, lung or kidney conditions) - the treatment of influenza is frequently just supportive and includes bed rest, analgesics (pain killers) for muscle aches and pains, and increased intake of fluids.

If influenza is diagnosed within 48 hours of the onset of symptoms, in particular among high-risk groups, several antiviral medications are available which may shorten the duration of symptoms by approximately 1 day. These medications include amantadine or rimantadine (active against influenza A only); oseltamivir and zanamivir (active against influenza A and B). As each of these medicines has different side effects and affects different viruses, your physician will determine which one is best for you.

Treatment is usually not necessary for children, but if the illness is diagnosed early and the patient is at risk of progression to more severe disease, it can be started. Oseltamivir (Tamiflu) is the best choice for children. It is available in a liquid formulation and may be easier to give to the child than zanamivir (Relenza), which is not licensed for children less than 12 years old and needs to be given by via inhaler. Treatment will only help if started early and only if the illness is actually influenza; it will not help treat a "regular cold."

Antiviral treatment

Amantadine and rimantadine:

- Effective against influenza A only,
- Approved for treatment and prophylaxis

Zanamivir and oseltamivir

- Neuraminidase inhibitors
- Effective against influenza A and B
- Oseltamivir approved for prophylaxis

Effectiveness of antivirals

Drug Resistance

Suspected however, not fully analyzed as of current. Specimens from patients who continue to become ill despite antiviral prophylaxis are of special importance and should be shipped to CDC for further analysis for purposes of recognizing any resistant strains of influenza.

Alternate Drug Name: Flumadine
Alternate Drug Name: Tamiflu
Other Antimicrobials: None

Tables 2: Comparison of Antiviral Drugs

Comparison of Antiviral Drugs for Influenza Table					
Drug	**Trade Name**	**Influenza Virus Type**	**Approved Use**	**Treatment Age**	**Prevention Age**
amantadine	Symmetrel®	A	Treatment and Prevention	≥1 year	≥1 year
rimantadine	Flumadine®	A	Treatment and Prevention	Adults	≥1 year
zanamivir	Relenza®	A and B	Treatment	≥7 years	n/a
Oseltamivir	Tamiflu®	A and B	Treatment and Prevention	≥1 year	≥13 years

References

CDC website: http://www.cdc.gov/ncidod/diseases/flu/fluviral.htm (accessed on 6/28/03)

MEDLINE Plus Health Information: http://www.nlm.nih.gov/medlineplus/ency/article/000080.htm (accessed on 7/2/03)

4. Use of Influenza Vaccines in Outbreaks

(Refer to current ACIP recommendations)

5. Special Conditions

(Refer to current ACIP recommendations)

6. General Guidelines for Influenza Case Investigation and Surveillance

Case Investigation

Case investigations are currently limited to those of special interest (i.e., traveled to area with avian influenza activity) or to clustered influenza activity (i.e., schools, nursing homes, etc)

Information to Collect

Rapidly triage reports of respiratory disease by gathering the following information:

a. Number of ill persons
b. Setting (school, nursing home, community, etc)
c. Age distribution of ill persons
d. Do ill individuals have underlying disease or are they previously healthy?
e. Symptoms
f. Date(s) of onset of illness
g. Influenza vaccination history of ill persons
h. Travel history of ill persons

i. Duration of illness time to full recovery
j. Does anyone have pneumonia? How many?
k. Results of rapid influenza test and sputum gram stain and blood cultures, and other studies.
l. Are any patients sick enough to be in the hospital? How many?
m. Are any patients moribund? How many?
n. Has anyone died? How many?
o. Name and phone number of person reporting illness.

Contact Investigation
Contact investigations are necessary for close contacts of those with suspected avian or novel influenza virus and those in long-term care facilities.

Reporting of Cases
Institutional (schools, personal care home, long term care or hospital) or community outbreaks are reportable by attending health care professional or laboratory director.

7. Household Settings

Background
Definition of Outbreak in Household: Two or more household members demonstrating fever and one or more respiratory symptoms within 3-4 days of each other.

Identifying and Investigating Cases and Contacts
Household settings are generally not fully investigated unless cases are of special interest (suspected avian influenza or other emerging disease). A Communicable Disease Report shall be completed for each household member demonstrating symptoms. Additionally, investigator shall contact household once per day, to identify any new cases or the status of index cases, until 72 hours beyond the last case's recovery.

Control Measures
Cases shall not return to work or school until symptoms have desisted or 72 hours beyond the onset of illness, which ever is longer.

Treatment and prophylaxis
Treatment is mostly supportive in nature. However, if cases are in high risk group or is a suspected avian or other novel strain of influenza, antiviral medication is recommended for cases and close contacts.

Vaccination
Is recommended for all household members who are in high-risk category (asthma, cystic fibrosis, and other immunocompromising conditions).

Isolation
Cases shall isolate themselves from work and school and minimize household contact for 72 hours following onset of symptoms.

8. School and Day Care Setting

Definition of an ILI Outbreak in a Day Care Center or School
Influenza outbreak is suspected when three (3) or more cases of influenza-like illness (ILI) are detected in a single day care center, single class at school within a 48 to72 hour time period OR if absentee rate is greater than 10% for entire school or greater than 20%for one grade/class.

Contact Definitions
Contacts include those in same grade/class or day care facility as index case.

Identifying and Investigating Cases and Contacts

Evaluate Suspected Cases
By collecting specimens from sample of suspected cases for either rapid diagnostic or culture isolation.

Identify High Risk Contacts and Close Contacts
High-risk contacts are those within same daycare facility or same class/grade as initial case, and additionally household contacts.

Initiate Active Surveillance
Active surveillance shall be initiated if criteria for outbreak (see Definition of an Outbreak in a Day Care center or School above) have been met. Active surveillance shall consist of; contacting school health aide and instructing them to keep a log of ill students and their symptoms as well as identifying and collecting a sample specimens from new cases (if specimens were not collected from index cases).

Maintain Influenza Surveillance Log
Absentee rates, ill students and their symptoms shall be logged by school health aide/nurse. Health aide and investigator shall work together to complete the *Hawaii State School-based influenza-like illness report*.

Increase Awareness of Outbreak, Notify Parents/Guardians, and Alert Providers
Health aides can alert parents of outbreak situation and recommend that they retain children at home if experiencing symptoms. Health alert to providers will generally be restricted to widespread outbreaks and/or potential novel influenza strain suspected.

Control Measures
General control measures are to keep students at home until 72 hours after onset of symptoms.

Treatment and Chemoprophylaxis
Generally limited to high-risk cases or high-risk contacts.

Vaccination
Recommended for contacts in high-risk category (asthma, cystic fibrosis, immunocompromised)

9. Hospitals, Institutions, and Clinics

Definition of ILI outbreak in Hospital, Institution or Clinic
Three cases within a 48 to 72 hour period of *influenza-like illness* within a single location (i.e. - ward, building, etc) is considered an ILI outbreak. During influenza season, the occurrence of acute respiratory illness in several residents within a short time frame should be considered due to influenza until proven otherwise, regardless of whether the affected residents had been vaccinated.

When institutional outbreaks occur, chemoprophylaxis should be administered to all residents --- regardless of whether they received influenza vaccinations during the previous fall --- and should continue for ≥2 weeks. If surveillance indicates that new cases continue to occur, chemoprophylaxis should be continued until approximately 1 week after the end of the outbreak. The dosage for each resident should be determined individually. Chemoprophylaxis also can be offered to unvaccinated staff that provides care to persons at high risk. Prophylaxis should be considered for all employees, regardless of their vaccination status, if the outbreak is caused by a variant strain of influenza that is not well-matched by the vaccine.

In addition to nursing homes, chemoprophylaxis also can be considered for controlling influenza outbreaks in other closed settings (e.g., dormitories or other settings where persons live in close proximity). For example, chemoprophylaxis with rimantadine has been used successfully to control influenza A outbreak aboard a cruise ship.

Long-term Care Facilities
An influenza outbreak is suspected when three or more influenza-like illness cases are identified within a 48 to 72 hour in a similar area within the care facility (i.e., same ward, roommates, shared dining facilities, etc.) Investigators should complete the Hawaii Long-term care ILI outbreak Form.

Implementation of Control Measures
Optimally, symptomatic patients should be confined to their rooms or cohorted on the affected unit until they are afebrile and asymptomatic if taking antiviral (not

antibiotic) medicines or until 5 days after the onset of their illness if they are not taking antiviral medicines (see section 6(c)). This will reduce the spread of virus and also reduce the chances of prophylaxis failure resulting from transmission of drug-resistant virus. If residents cannot be confined or confinement would be a danger to their well-being, then it is strongly recommended that the resident be placed on amantadine/rimantadine and that as many other residents in the same wing or unit of the facility also are protected with administration of amantadine/rimantadine.

Control Measures

Treatment and Chemoprophylaxis
Treatment shall be pursued using antivirals for high-risk individuals.

Vaccination
Strongly urged for all employees and staff that have not yet been vaccinated with current vaccine.

10. Community Settings

Background
Typically, community outbreaks occur every year during the winter months. These are not unusual and do not require a physician's alert or immediate response. Rather, close monitoring is recommended to ensure that activity is not spreading further in an institutional facility or among the vaccinated population. Also, investigator shall ensure that a sample of specimens from geographical area have been submitted to State Laboratory Division for strain typing. If unidentified strain is detected, investigators shall refer to Hawaii State Pandemic Influenza Plan (Immunization Branch).

Definition of Outbreak in a Community
Outbreaks of either influenza-like illness or culture-confirmed influenza in counties having a combined population of <50% of the state's total population are considered regional outbreaks while outbreaks of either influenza-like illness or culture-confirmed influenza in counties having a combined population of >50% of the state's population are considered widespread. Outbreaks are determined by Sentinel Influenza Physician reports, commercial laboratories rapid tests results, and specimen submissions to State Laboratory Division.

Identifying and Investigating Cases and Controls

Surveillance
Surveillance consist of Sentinel Physicians reporting ILI activity on a weekly basis and lab reports for both rapid diagnostic and culture isolation

Influenza Alerts

Alerts are reserved for widespread outbreak activity or the identification of a novel influenza strain.

Public Education
Provided through news releases.

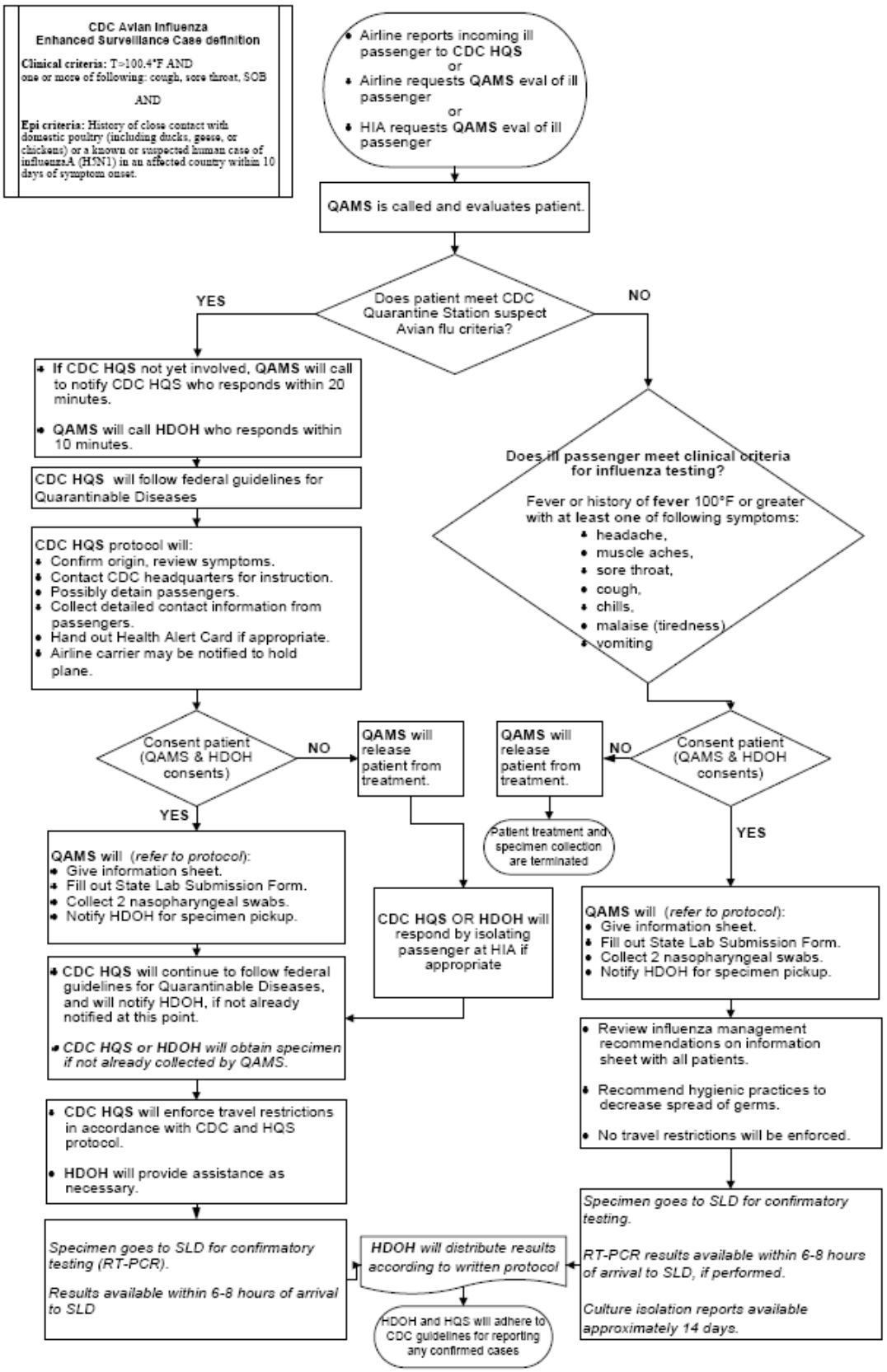
Control Measures

Treatment and Chemoprophylaxis
Antivirals can be used during widespread outbreaks

Vaccination
See ACIP recommendations for influenza vaccination. Optimally, administered during September –November each year for influenza prevention. During outbreak should be strongly encouraged for anyone who has not yet received vaccine for current year. However, if vaccine supplies are limited then only those in high-risk category shall receive vaccine first.

Isolation
The greatest control measure is simply isolation for both confirmed and suspect cases for a minimum of 72 hours after onset.

Appendix F: Airport Influenza Surveillance Algorithm



HQS=Honolulu Quarantine Station; QAMS = Queens Airport Medical Staff
Version 28Oct05

Appendix G:

Specimen Requirements for Influenza A (Flu A), Influenza B (Flu B), Adenovirus, Detection and Identification by real-time *Taq*man Reverse Transcriptase (RT) Polymerase Chain Reaction (PCR)

Methodology:	Real time *Taq*Man RT-PCR
Performed:	Real time *Taq*Man RT-PCR is used to detect respiratory virus pathogens that may be associated with a clinical presentation indistinguishable from Severe Acute Respiratory Syndrome (SARS) Coronavirus. **Only specimens meeting the criteria (high risk groups and/or outbreak occurrences) and case definition set by the Disease Investigation Branch (DIB) of the Disease Outbreak and Control Division of the Department of Health will be tested.**
Turn-Around-Time:	Preliminary report(s) will be available 6-8 hours from the time the specimen was received at the BT Response Laboratory. Positive specimens will be forwarded to the Virology Section for confirmatory testing.
Specimen required:	Respiratory specimens including bronchoalveolar lavage, tracheal aspirates, sputum, nasopharyngeal (NP) or oropharyngeal (OP) aspirates or washes, and NP or OP swabs.
Specimen Collection:	Use only Dacron tip swabs with an aluminum or plastic shaft. Calcium alginate swabs or cotton swabs with wooden sticks are unacceptable because they may cause PCR inhibition and may contain substances that inactivate or may be toxic to some viruses. **For NP swabs**- Insert swab into the nostril parallel to the palate and leave in place for a few seconds to absorb secretions. **For OP swabs**- swab both posterior pharynx and tonsillar areas, avoiding the tongue. Place swabs immediately into sterile vials containing 2 ml of viral transport media. Break the shaft and tighten the cap of the vial. Label each specimen with a unique identifier, type of specimen and date of collection. **Note: Only swabs in viral transport media (VTM) will be accepted.**

For NP wash/aspirate- Have the patient sit with the head tilted slightly backward. Instill 1-1.5 ml. of non-bacteriostatic saline (pH 7.0) into one nostril. Flush a plastic catheter or tubing with 2-3 ml of saline. Insert the tubing into the nostril parallel to the palate. Aspirate NP secretions. Repeat this procedure with each nostril. Collect NP/OP wash or aspirate in sterile vials. Label each specimen with a unique identifier, type of specimen and date of collection. *NP aspirates are the specimen of choice for the detection of respiratory viruses.*

Note: Respiratory specimens should be collected as soon as possible in the course of illness. Recovery of viruses diminishes markedly >72 hours after onset of symptoms.

Specimen storage, packing and transport:

Ship specimens with cold packs to keep the sample at 4^{o}C. Follow instructions on the U.S. Department of Transportation (U.S.DOT) Hazardous Materials Regulations for transporting diagnostic specimens and the packing instructions from the current edition of the International Air Transport Association (IATA) Dangerous Goods Regulations.

Specimen submission:

The Epidemiology Specialist of the DIB must notify Rebecca H. Sciulli of the Bioterrorism Response Laboratory at 368-3373 or 453-5990 prior to the submission of specimens.
Note: It is the responsibility of the submitter to track the arrival of the specimens along with Form 81.3 at the State Laboratories Division to ensure that these specimens are received by the BT Response Laboratory staff.

Unacceptable conditions:

- Specimen is received in a container that is leaking;
- Specimen is not collected in a proper container or special handling instruction is not followed;
- Viral transport media is expired;
- Swabs with cotton tips, calcium alginate, and swabs with wooden shafts;
- Specimen is not received at 4^{o}C or packed in blue ice;
- Specimen quantity is insufficient to perform the tests;
- Unlabeled specimens;

- Incomplete requisition form (*e.g.*, no date of onset, travel history, if appropriate, *etc*.);
- Specimen label does not match the requisition.

Stability: All specimens must be refrigerated at 2-8°C immediately after collection. If the specimen cannot be transported to the State Laboratories Division within 48 hours after collection, it should be kept frozen at -20°C (for PCR detection).

Requisition Form:

- State Laboratories Division Requisition **Form 81.3**
  Each specimen submitted must have a completed Form 81.3, with the patient's unique identifier, submitter, specimen site/specimen type, date of onset, travel history, date of collection, date shipped/sent to the SLD, test(s) requested and other pertinent information.
- **Illegible Form 81.3 or forms that are not consistent with the specimen submitted will be rejected and requesting facility will be asked to re-submit.**
- **Requisition forms shall be placed in a separate bag and shall not be packed with the specimen(s).**

Normal Value: N/A

Result Notification: Laboratory reports will be forwarded to the submitter (Epidemiological Specialist at the Disease Investigation Branch (DIB), Disease Outbreak Control Division (DOCD) or submitting laboratory) by electronic reporting system or via FAX. **Any other request for copies of laboratory reports by submitters other than DOCD or the submitting laboratory will not be accepted and laboratory reports will only be released to DOCD or the submitting laboratory.**

Test performed at: Bioterrorism (BT) Response Laboratory
State Laboratories Division
Department of Health
2725 Waimano Home Road
Pearl City, Hawaii 96782

Contact: Rebecca H. Sciulli, M.S., M.T. (AMT)
808-368-3373; 453-5990

Appendix H:
Respiratory Specimen Laboratory Submission Form

HAWAII STATE DEPARTMENT OF HEALTH

MEDICAL MICROBIOLOGY BRANCH
HAWAII STATE DEPARTMENT OF HEALTH
2725 WAIMANO HOME ROAD
PEARL CITY, HAWAII 96782

STATE HEALTH DEPARTMENT NUMBER

DATE RECEIVED BY STATE LABORATORY

USE FOR RESPIRATORY SPECIMENS COLLECTED FOR INFLUENZA SURVEILLANCE ONLY

PLEASE NOTE THAT ITEMS WITH AN * ASTERIK ARE REQUIRED

PATIENT IDENTIFICATION

NAME AND ADDRESS OF PHYSICIAN/SCHOOL/FACILITY: *

FIRST NAME & MIDDLE INITAL*

LAST NAME*

ADDRESS*

LABORATORY PERFORMING INFLUENZA RAPID TESTING:

CITY*

ZIP*

COUNTRY (IF NOT USA): *

CLINICAL DIAGNOSIS **INFLUENZA**

CATEGORY OF AGENT SUSPECTED **VIRUS**

LABORATORY EXAMINATION REQUESTED **VIRUS CULTURE**

SPECIFIC AGENT SUSPECTED **INFLUENZA VIRUS**

STATUS* ☐ Hawaii Resident ☐ Tourist

DATE OF BIRTH: * (MM/DD/YYYY)

SEX* ☐ MALE ☐ FEMALE

HOSPITALIZATION REQUIRED? * ☐YES ☐NO

HOSP ADMIT DATE: (MM/DD/YYYY)

DATE OF ONSET: * (MM/DD/YYYY)

SPECIMEN INFORMATION

TYPE OF SPECIMEN*
- ☐ THROAT SWAB
- ☐ NASOPHARYNGEAL SWAB
- ☐ NASAL ASPIRATE
- ☐ SPUTUM
- ☐ OTHER (Specify): _____

DATE *: (MM/DD/YYYY) _____
(Specify date of collection)

SCREENING TEST* ☐ NOT DONE

RAPID ANTIGEN TEST²	RESULTS*	TEST DATE*	SPECIMEN REF NUMBER
DIRECTIGEN FLU A	+ -		
DIRECTIGEN FLU B	+ -		
BINAXNOW A	+ -		
BINAXNOW B	+ -		
QUICKVUE	+ -		

DO NOT WRITE BELOW THIS LINE

DEPARTMENT OF HEALTH USE ONLY

DATE OF REPORT: _____

1. CLINICAL SIGNS AND SYMPTOMS
- ☐ FEVER (Maximum temp. _____ F)
- ☐ COUGH
- ☐ SORE THROAT
- ☐ MALAISE
- ☐ BODY ACHES
- ☐ CHILLS
- ☐ DIARRHEA
- ☐ OTHER: _____

2. LIST ANY TRAVELLING WITHIN THE 7-DAY PERIOD PRIOR TO ONSET OF ILLNESS (Places and Dates)*:
_____
_____

3. PATIENT EVER RECEIVED INFLUENZA VACCINE?*
☐YES ☐NO

DATE OF LAST VACCINATION:*
(MONTH/DAY) _____

MANUFACTURER NAME: _____

LOT NUMBER: _____

4. ANTIVIRAL THERAPY
NAME OF MEDICATION (Specify dates and dosages administered): _____
_____

5. OTHER INFORMATION:

Rev. 09/2004
FLUFORM2004
Disease Investigation Branch

Appendix I:
Pandemic Influenza Preparedness & Response
Ad Hoc Advisory Committee* Members

District Health Offices
- Hawai`i
- Kauai
- Maui

HDOH Communications Office
Public Health Nursing

Hawai`i Medical Association
American College of Physicians
American Academy of Pediatricians
American Academy of Family Physicians
American College of Emergency Physicians
Medical Examiner's Office

Healthcare Association of Hawai`i
Association for Professionals in Infection Control
Emergency Medical Services
American Red Cross

Dept of Agriculture, State Veterinarian

Bioethicist

State Government
- (including one representative for the Governor and each house of the State Legislature)

Representatives for each County Mayor

State Attorney General

Tripler (TAMC)
Pacific Command (PACOM)

CDC/PHS Quarantine Station
State Civil Defense
County Civil Defense

County Police Department
County Fire Departments

*Each group or organization would provide one chief representative to attend ad-hoc meetings and one alternate in the event that the chief representative is unavailable.

Other groups that may be consulted/asked to participate as needed:
- Infectious Diseases (Adult, Pediatric)
- Hawai`i Primary Care Association
- Hawai`i Medical Services Association
- Kaiser Permanente
- Hawai`i Pharmacists Association
- Hawai`i Nursing Association
- Hawaii Visitors Association
- Dept of Education
- Dept of Parks and Recreation (State and County)
- Dept of Accounting and General Services, Public Works Division (State)
  - Dept of Public Works (County)
- Dept of Transportation

Appendix J: Potential Point of Distribution Sites

Current list as of 20 October. 2005.

HAWAII COUNTY

Hilo & Puna

NAME	ADDRESS	CITY	ZIP CODE
Afook-Chinen Civic Auditorium	326 Manono Street	Hilo	96720
Hilo High School	556 Waianuenue Ave.	Hilo	96720
Keaau High School	16-725 Keaau-Pahoa Road	Keaau	96749

Kau

NAME	ADDRESS	CITY	ZIP CODE
HOVE Community Center (Ocean View)	92-8924 Leilani Pkwy.	Ocean View	96737
Pahala Community Center	96-3159 Maile Street	Pahala	96777

HAWAII COUNTY – Kohala & Hamakua Districts

NAME	ADDRESS	CITY	ZIP CODE
Waimea Civic Center (and Church Row for Drive-Thru)	5189 Kamamalu Street	Kamuela	96743

Kona

NAME	ADDRESS	CITY	ZIP CODE
Kealakehe High School	74-5000 Puohulihuli Street	Kailua-Kona	96740
Konawaena High School	81-1043 Konawaena School Road	Kealakekua	96750

KAUAI COUNTY

North Shore

NAME	ADDRESS	CITY	ZIP CODE
Kilauea Gymnasium	2460 Keneke Street	Kilauea	96754
Kilauea School – Drive Thru (set up in the Parking Lot)	2440 Kolo Road	Kilauea	96754

Kapaa & Lihue

NAME	ADDRESS	CITY	ZIP CODE
Kapa'a Armory	4670 Kahau Road	Kapaa	96746
Kapa'a Temporary Bypass Road	(Set up in areas where road widens)	Kapaa	96746

Kauai Memorial Convention Hall	4319 Hardy Street	Lihue	96766
Vidinha Stadium (set up in the Parking Lot)	3170 Hoolako Street	Lihue	96766

South Shore

NAME	ADDRESS	CITY	ZIP CODE
Koloa Park Pavilion (with rented huge tent)	Maluhia Road (1/8 mile from Koloa Road)	Koloa	96756
Poipu-Koloa Bypass Road (Set up near Kauai Christian Fellowship Church)	2731 Alahukuomoki (Poipu-Koloa Bypass Road)	Koloa	96756

West Shore

NAME	ADDRESS	CITY	ZIP CODE
Halewili Road – Drive Thru (set up by Kauai Coffee)	879 Halewili Road	Eleele	96705
Hanapepe Armory	1-3460 Kaumualii Hwy.	Hanapepe	96716

MAUI COUNTY

Central

NAME	ADDRESS	CITY	ZIP CODE
Haiku Park & Community Center	Hana Highway, next to Haiku School	Haiku	96708
Kihei Community Center	303 East Lipoa Street	Kihei	96753
Mayor Hannibal Tavares Community Center	91 Pukalani Street	Pukalani	96788
Velma McWayne Santos Community Center	395 Waena Place	Wailuku	96793
War Memorial Complex	1580 Ka'ahumanu Avenue	Wailuku	96793

East

NAME	ADDRESS	CITY	ZIP CODE
Hana Community Center	5101 Ua Kea Road	Hana	96713
Helene Hall	174 Government Road	Hana	96713

West

NAME	ADDRESS	CITY	ZIP CODE
Lahaina Intermediate School	871 Lahainaluna Road	Lahaina	96761
Lahaina Recreation Center	Shaw Avenue and Honoapiilani Highway	Lahaina	96761

Lanai

NAME	ADDRESS	CITY	ZIP CODE
Lanai Community Center	8th Street	Lanai City	96763

Molokai

NAME	ADDRESS	CITY	ZIP CODE
Kualapu'u Community Center	Uwao Street	Ho'olehua	96729
Molokai High School	2140 Farrington Avenue	Ho'olehua	96729

HONOLULU COUNTY

Windward

NAME	ADDRESS	CITY	ZIP CODE
Brigham Young University	55-220 Kulanui	Laie	96762
Castle High School	45-386 Kaneohe Bay Drive	Kaneohe	96744
Kahuku High and Inter. School	56-490 Kamehameha Hwy.	Kahuku	96731
Kailua District Park	Kailua Rd	Kailua	96734
Kaneohe District Park	Keaahala Rd. & Kahekili Hwy	Kaneohe	96744
Waimanalo Intermediate School	41-1330 Kalanianaole Hwy	Waimanalo	96795

Honolulu

NAME	ADDRESS	CITY	ZIP CODE
Ala Moana District Park	Ala Moana Park Dr.	Honolulu	96815
Aloha Stadium	99-500 Salt Lake Blvd.	Honolulu	96818
Farrington High School	1564 N. King St.	Honolulu	96817
Hawaii Convention Center	1801 Kalakaua Ave.,	Honolulu	96814
*Honolulu Community College**	*874 Dillingham Blvd.*	*Honolulu*	*96817*
Kalani High School	4680 Kalanianaole Hwy	Honolulu	96821
Kalihi Valley District Park	King Kamehameha IV Rd & Hihio Pl	Honolulu	96819
Kilauea District Park	22nd & Kilauea Aves	Honolulu	96816
Koko Head District Park	Koko Head Park Rd.	Honolulu	96825
Neil Blaisdell Center	777 Ward Ave.	Honolulu	96814
Salt Lake District Park	Ala Lilikoi & Ala Lilikoi Pl	Honolulu	96818
*University of Hawaii**	*2600 Campus Rd.*	*Honolulu*	*96826*
Waikiki School	*3710 Leahi Ave.*	*Honolulu*	*96815*

Central

NAME	ADDRESS	CITY	ZIP CODE
Leilehua High School	1515 California Ave.	Wahiawa	96786
Miliani High School	95-1200 Meheula Parkway	Mililani	96789
*Mililani District Park**	*Lanikuhana Blvd & Hokuala St.*	*Mililani*	*96789*
Mililani Middle School	95-1140 Lehiwa Dr.,	Mililani	96789
Waialua High School	67-160 Farrington Highway	Waialua	96791

Leeward

NAME	ADDRESS	CITY	ZIP CODE
James Campbell High School	91-980 North Rd.	Ewa Beach	96706
Kapolei High School	91-5005 Kapolei Parkway	Kapolei	96707
Leeward Community College	96-045 Ala Ike	Pearl City	96782
Pearl City High School	2100 Hookiekie St	Pearl City	96782
Waianae High School	85-251 Farrington Highway	Waianae	96792
Waipahu District Park	Paiwa St. & Kahuamoku Sts.	Waipahu	96797

**still requires physical assessment*

Appendix K:
Priority Groups for Influenza Immunization

Because the supply of pandemic influenza vaccine is likely to be far less than that required to protect the susceptible population, targeting available supply to defined priority groups will be critical to optimally reduce morbidity and mortality as well as decrease social and economic disruption. Any available pandemic influenza vaccine should be distributed in an equitable and consistent manner to pre-defined priority groups.

As epidemiologic data on the pandemic virus and the course of the pandemic become available, the Pandemic Influenza Preparedness & Response Planning Working Group will likely need to reassess and potentially modify previously established priority groups to ensure that they are consistent with the national vaccination program goals of offering the optimal public health prevention and protection as well as being in line with the particular needs of the people of Hawai`i. Recommendations will be forwarded to the State Epidemiologist and Director of Health.

Public education will be crucial to ensure that persons not in groups identified for earliest vaccination are aware of and understand the rationale for established priorities.

As two doses of the pandemic influenza vaccine are likely to be optimal, the decision must be made as soon as an estimate of the supply is available regarding whether to administer one dose to a greater number of personnel, or to give two doses, an appropriate interval apart, to a smaller group.

The following pages are excerpts from the November 2005 HHS Pandemic Influenza Plan, Appendix D of Part 1 – Strategic Plan, which outlines the national recommendations for vaccine prioritization and which will guide Hawai`i's public health officials in prioritizing vaccination in our State. Refer to the HHS Pandemic Influenza Plan at http://www.hhs.gov/pandemicflu/plan/ for the full details regarding critical assumptions and rationale for the prioritization. Early vaccination of some persons across each of the highest priority groups, rather than sequentially vaccinating groups, will be considered.

Any further prioritization, extension, or other modification of these recommendations for the greater benefit of the people of Hawai`i will be addressed by the Ad Hoc Advisory Group, which will forward recommendations to the Director of Health.

Table D-1: Vaccine Priority Group Recommendations*

Tier	Subtier	Population	Rationale
1	A	■ Vaccine and antiviral manufacturers and others essential to manufacturing and critical support (~40,000) ■ Medical workers and public health workers[3] who are involved in direct patient contact, other support services essential for direct patient care, and vaccinators (8-9 million)	■ Need to assure maximum production of vaccine and antiviral drugs ■ Healthcare workers are required for quality medical care (studies show outcome is associated with staff-to-patient ratios). There is little surge capacity among healthcare sector personnel to meet increased demand.
	B	■ Persons ≥ 65 years with 1 or more influenza high-risk conditions, not including essential hypertension (approximately 18.2 million) ■ Persons 6 months to 64 years with 2 or more influenza high-risk conditions, not including essential hypertension (approximately 6.9 million) ■ Persons 6 months or older with history of hospitalization for pneumonia or influenza or other influenza high-risk condition in the past year (740,000)	■ These groups are at high risk of hospitalization and death. Excludes elderly in nursing homes and those who are immunocompromised and would not likely be protected by vaccination
	C	■ Pregnant women (approximately 3.0 million) ■ Household contacts of severely immunocompromised persons who would not be vaccinated due to likely poor response to vaccine (1.95 million with transplants, AIDS, and incident cancer x 1.4 household contacts per person = 2.7 million persons) ■ Household contacts of children <6 month olds (5.0 million)	■ In past pandemics and for annual influenza, pregnant women have been at high risk; vaccination will also protect the infant who cannot receive vaccine. ■ Vaccination of household contacts of immunocompromised and young infants will decrease risk of exposure and infection among those who cannot be directly protected by vaccination.
	D	■ Public health emergency response workers critical to pandemic response (assumed one-third of estimated public health workforce=150,000) ■ Key government leaders	■ Critical to implement pandemic response such as providing vaccinations and managing/monitoring response activities ■ Preserving decision-making capacity also critical for managing and implementing a response

[3] This is inclusive of federal healthcare providers to Indian nations and tribes.

Table D–1. Continued

Tier	Subtier	Population	Rationale
2	A	■ Healthy 65 years and older (17.7 million) ■ 6 months to 64 years with 1 high-risk condition (35.8 million) ■ 6-23 months old, healthy (5.6 million)	■ Groups that are also at increased risk but not as high risk as population in Tier 1B
	B	■ Other public health emergency responders (300,000 = remaining two-thirds of public health work force) ■ Public safety workers including police, fire, 911 dispatchers, and correctional facility staff (2.99 million) ■ Utility workers essential for maintenance of power, water, and sewage system functioning (364,000) ■ Transportation workers transporting fuel, water, food, and medical supplies as well as public ground public transportation (3.8 million) ■ Telecommunications/IT for essential network operations and maintenance (1.08 million)	■ Includes critical infrastructure groups that have impact on maintaining health (e.g., public safety or transportation of medical supplies and food); implementing a pandemic response; and on maintaining societal functions
3		■ Other key government health decision-makers (estimated number not yet determined) ■ Funeral directors/embalmers (62,000)	■ Other important societal groups for a pandemic response but of lower priority
4		■ Healthy persons 2-64 years not included in above categories (179.3 million)	■ All persons not included in other groups based on objective to vaccinate all those who want protection

*The committee focused its deliberations on the U.S. civilian population. ACIP and NVAC recognize that Department of Defense needs should be highly prioritized. DoD Health Affairs indicates that 1.5 million service members would require immunization to continue current combat operations and preserve critical components of the military medical system. Should the military be called upon to support civil authorities domestically, immunization of a greater proportion of the total force will become necessary. These factors should be considered in the designation of a proportion of the initial vaccine supply for the military.

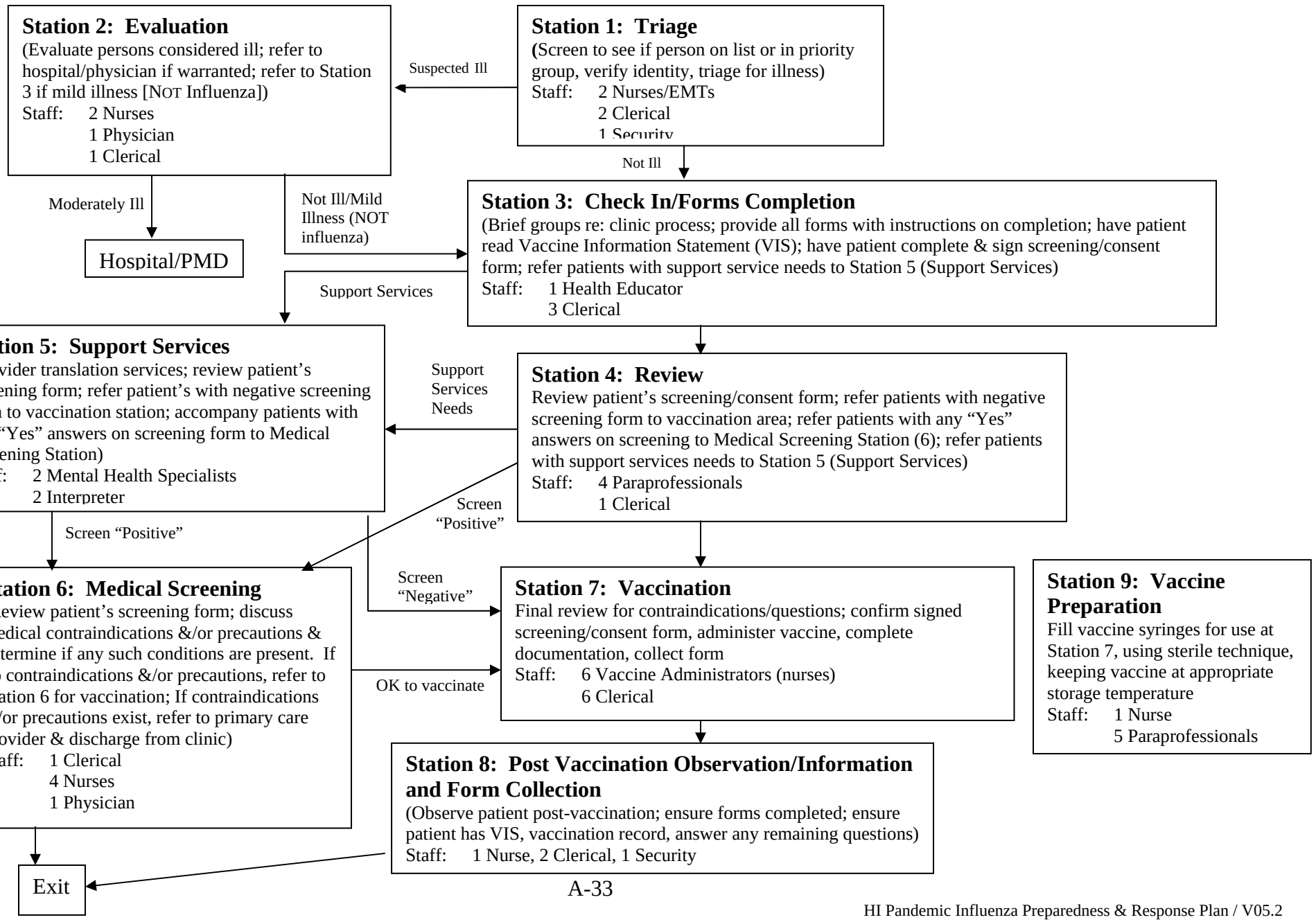
Other groups also were not explicitly considered in these deliberations on prioritization. These include American citizens living overseas, non-citizens in the U.S., and other groups providing national security services such as the border patrol and customs service.

Note the following estimated numbers for certain groups in the State of Hawai`i:

Group	Estimated Size
Adults ≥65 years of age	166,910[11]
Persons aged 6 months and older with underlying chronic disease	370,733[12]
Children aged 6 – 23 months of age	31,035[13]
Pregnant women	18,296[14]
Health Care Workers (direct patient care)	
• Acute care hospitals	30,000[15]
• Long term care facilities/nursing homes	7,278[16]
Health-related Workers	
• Pharmacies	1,681[17]
• Laboratories	1138[18]
Essential Public Health Workers (HDOH)	603
First Responders[19]	
• Emergency Medical Services	484
• Fire	1,790
• Police	3,570
• Civil Defense	62
Public Works	13,255[20]

[11] Department of Business, Economic Development & Tourism. 2003 Databook. http://www3.hawaii.gov/dbedt/images/User_FilesImages/databook/db03/Section_01_all_a1003.pdf
[12] Hawaii State Department of Health. Hawaii Health Survey 2003, selected chronic conditions by age and gender.
[13] Census Bureau 2000 Summary File 1 (SF1) 100-Percent Data, PCT 12 Table.
[14] Hawaii State Department of Health, Vital Statistics 2004 birth data. http://www.hawaii.gov/health/statistics/vital-statistics/vr_04/birth.pdf
[15] Census Bureau 2000 Summary File 4 (SF4), QT-P27 Table.
[16] Hawai`i Immunization Branch. Assessment and Technical Support Section, annual immunization survey data 2005 (information about Assisted Living Facility), 2004 (information about ARCH II, nursing facilities), 1999-2000 (information about ARCH I).
[17] State of Hawai`i Department of Commerce and Consumer Affairs Professional and Vocational Licensing Division, Geographic Report as of July 6, 2005.
[18] Based on data from Quality Assurance Coordinator, State Laboratories Division.
[19] Based on estimates from Annual Reports for various agencies, State Civil Defense data, and HDOH Bioterrorism Planners' data.
[20] Based on data collected by the HDOH Bioterrorism Planners.

Appendix L: Pandemic Influenza Vaccination Clinic Algorithm



Appendix M:
Immunization Clinic Procedures

All clinic personnel must be immunized. Any personnel with symptoms/signs of influenza or other communicable illness must not be allowed to work in the clinic.

Station 1: Triage

Type of staff: ***Nurses or EMTs/Clerical/Security***

Total staff per 8 hour shift: XX

Physical Requirements: **Able to stand (sit) for at least 8 hours**
Able to interview patients for at least 8 hours
Able to wear N-95 mask and gloves

- **Station 1 should be located before the entrance to the clinic**
- Desk and chairs (for volunteers working at the station) should be situated in a way to allow control of potential vaccinee flow into the clinic, but without obstructing the doorway
- Post the "Triage" sign, identifying the station, in a location that is clearly visible to incoming persons
- Tape the Station 1 procedure card on the desk where it is visible to the clinic staff working at the station

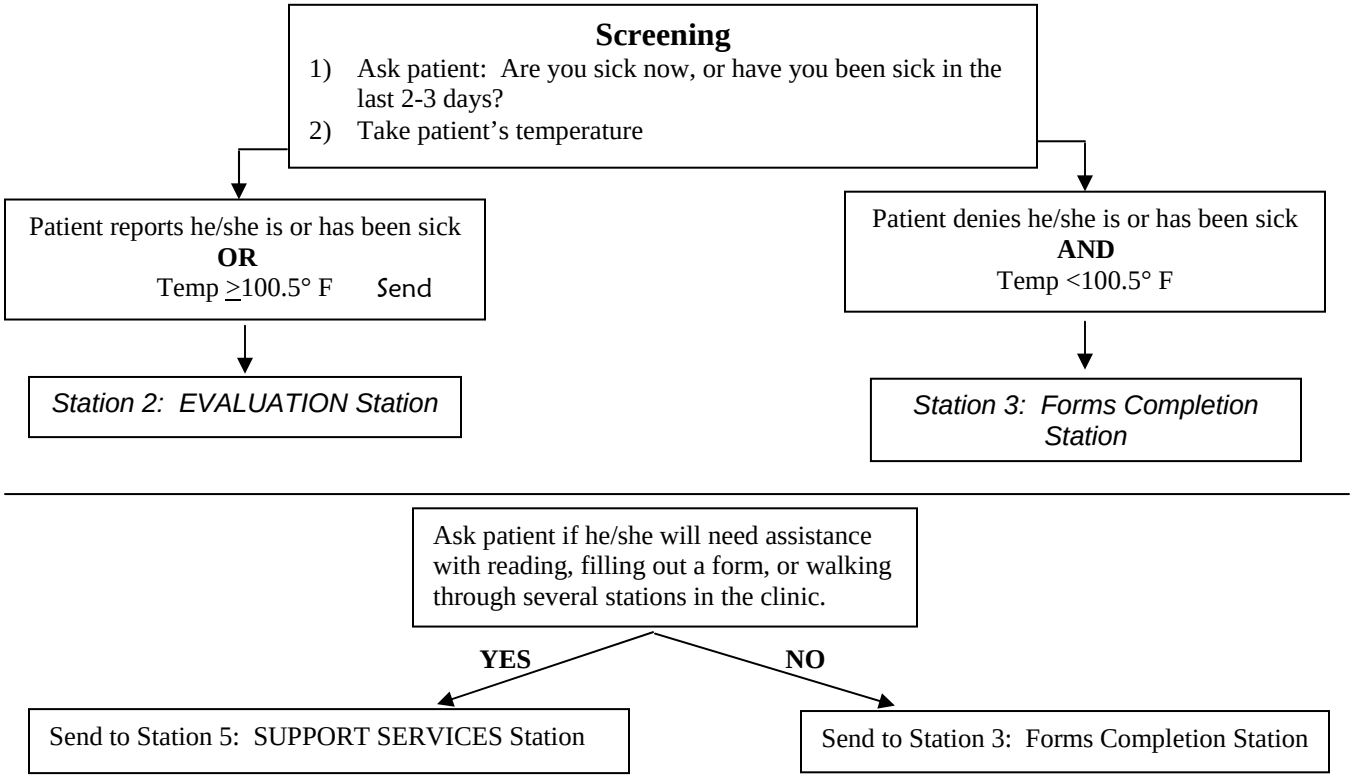
Forms/Supplies:

- Time/date stamper
- Thermometers
- Antiseptic wipes
- Antiseptic hand gel
- Biohazardous waste container
- Disposable gloves
- N-95 masks
- Surgical masks (for ill patients)
- Preprinted list of potential vaccinees (if vaccine supply limited) or of priority groups
  - 2 signature/date lines per vaccinee (one for initial vaccination clinic, one for 2nd dose clinic)
  - Space next to each potential vaccinee's name for bar code sticker
  - List divided into sections (i.e. A-G, H-L, etc.), if necessary
- Pens
- Stapler
- Tape

- Trash can
- "Triage" sign identifying station
- Station 1 procedure card (to be developed)

Procedures:

- Greet all potential vaccinees
- Vaccinees should arrive at prescheduled appointment time and present photo identification (if vaccine supply limited)
- Confirm potential vaccinee is on the preprinted list of names or priority groups. If not on the list, potential vaccinee will not be vaccinated
- Check potential vaccinee's photo identification and have potential vaccinee sign and date preprinted list.[21]
- Screen all potential vaccinees and refer to the appropriate Station:



[21] In the case of mass vaccinations with limited vaccine supply, list of names will not be available and only select priority groups will be vaccinated. If sufficient vaccine, all comers can be vaccinated. In any case, may waive this procedure or use alternate one.

Station 2: Evaluation

Type of staff: ***Physician/Nurse/Clerical***

Total staff per 8 hour shift: XX

Physical Requirements: **Able to stand (sit) for at least 8 hours**
Able to interview patients for at least 8 hours
Able to wear N-95 mask and gloves

- **Station 2 should be located in a confined area with minimal traffic flow, in a separate area from the main vaccination clinic**
- Desk and chairs should be set-up at "entrance" of Station 2 for clinic personnel checking in patients
- Chairs should be set-up for patients awaiting evaluation
- Cots should be set-up for moderately ill patients
- Post the "Evaluation" sign, identifying the station, in a location that is clearly visible to incoming patients
- Tape the Station 2 procedure card on the desk where it is visible to the clinic staff working at the station

Forms/Supplies:

- Gloves
- N-95 masks
- Thermometer
- Stethoscope
- Blood pressure cuff
- Pulse oximeter
- Biohazardous waste container
- Alcohol based hand cleansing gel
- Soap
- Handwashing facilities
- Paper towels
- Trash can
- Pens
- Clipboards
- Evaluation/Referral Form (to be developed)
- Telephone
- File box for collection of Evaluation/Referral Form
- "Evaluation" sign identifying station
- Masking tape (for posting signs, etc.)
- Station 2 procedure card (to be developed)
- Portable photocopying machine

Procedures:

- Physician/nurse should triage patients at entrance into two groups:

  - Those needing immediate attention
  - Those who need evaluation but are not moderately ill
- Perform brief history/physical examination, including temperature. Record on the Medical Evaluation/Referral form.
- Refer moderately ill patients to their primary care provider, to a hospital emergency department , or to a pre-designated and set-up acute care center for further evaluation as appropriate. Photocopy the Medical Evaluation/Referral form to accompany the patient.
- Refer well patients and/or those with mild illness (not Influenza) to Station 3 for vaccination along with photocopy of their Medical Evaluation/Referral form.
- Patients with suspected/probable Influenza must **NOT** be allowed to enter the Main Vaccination Clinic.

Station 3: Check In/Forms Completion

Type of staff: ***Health Educator/Clerical***

Total staff per 8 hour shift: XX

Physical Requirements: **Able to stand (sit) for at least 8 hours**

- **Station 3 should be located at the entrance to the clinic in an area (room) that can accommodate a group of people**
- Set up a table and chairs at the "entrance" to Station 3 for clinic staff
- If space allows, set up tables and chairs "inside" Station 3 where potential vaccinees may read the Pandemic Influenza Vaccine Information Statement (VIS) and complete and sign the consent form. If space is not available for tables, set up chairs and have clipboards available to provide hard, writing surfaces
- Post the "Check In" and "Forms Completion" signs identifying the station, in a location that is clearly visible to incoming potential vaccinees
- Tape the Station 3 procedure card(s) on the desk where it is visible to the clinic staff working at the station

Forms/Supplies:

- Packets for potential vaccinees:
  - Pandemic Influenza Vaccine Information Statement (VIS)
  - Pandemic Influenza Vaccine Screening/Consent Form
- Pens
- Clipboards
- "Check In" and "Forms Completion" signs identifying station
- Masking Tape
- Station 3 procedure cards (to be developed)

Procedures:

- Brief potential vaccinees on clinic process
- Provide packet to each potential vaccinee
- Potential vaccinee must read the *Pandemic Influenza Vaccine Information Statement (VIS)* and complete the *Pandemic Influenza Vaccine Screening/Consent Form*.
- Potential vaccinees who require assistance with reading the VIS or completing the Pandemic Influenza Vaccine Screening/Consent Form should be referred to Station 5.
- Ensure all information on the Screening/Consent Form is complete and all screening questions have been answered.
- Ensure potential vaccinee has signed the consent form
- Refer potential vaccinees with completed forms to Station 4.

Station 4: Review

Type of staff: ***Paraprofessional/Clerical***

Total staff per 8 hour shift: XX

Physical Requirements: **Able to sit for at least 8 hours**
Able to interview patients for at least 8 hours

- **Station 4 may have multiple rooms to allow for privacy during medical screening**
- Post the "Review" sign identifying the station, in a location that is clearly visible to incoming potential vaccinees
- Tape the Station 4 procedure card(s) on the desks where it is visible to the clinic staff working at the station

Forms/Supplies:

- Pens
- "Review" sign identifying station
- Tape
- Station 4 procedure cards (to be developed)

Procedures:

- Review potential vaccinee's Pandemic Influenza Screening/Consent form
- Refer patients with all boxes marked "No" to Station 7: Vaccination
- Refer patients with any box marked "Yes" to Station 6: Medical Screening
- Refer patients with medical questions (i.e. indications, contraindications, side effects, etc.) not covered in education materials (i.e. VIS) to Station 6: Medical Screening
- Potential vaccinee may complete screening questions **after** speaking with Medical Screeners in Station 6
- Refer patients in need of support services to Station 5

Station 5: Support Services

Type of staff: ***Mental Health specialist/Interpreter***

Total staff per 8 hour shift: XX

Physical Requirements: **Able to stand/sit for at least 8 hours**
Able to interview/assist patients for at least 8 hours

Forms/Supplies:

- Pens
- "Support Services" sign identifying station
- Tape
- VIS & Screening/Consent Forms in different languages
- Station 5 procedure cards (to be developed)

Procedures:

- Provide interpreter services
- Provide assistance to anyone physically needing help
- Provide psychological first aid to those needing assistance

Station 6: Medical Screening

Type of staff: ***Nurses & Physician***

Total staff per 8 hour shift: XX

Physical Requirements: **Able to sit for at least 8 hours**
Able to interview patients for at least 8 hours

- **Station 6 may have multiple rooms to allow for privacy during medical screening**
- If multiple rooms not available, space screening stations as far apart as possible to allow for privacy during medical screening
- Post the "Medical Screening" sign identifying the station, in a location that is clearly visible to incoming potential vaccinees
- Tape the Station 6 procedure card(s) on the desks where it is visible to the clinic staff working at the station

Forms/Supplies:

- Pens
- "Medical Screening" sign identifying station
- Tape
- Station 6 procedure cards (to be developed)

Procedures:

- Nurse/physician should ensure that potential vaccinee has received and read the Pandemic Influenza VIS
- Nurse/physician should review the potential vaccinee's screening form for any contraindications and/or precautions
- If no contraindications/precautions exist, screener should stamp the Pandemic Influenza Vaccine screening/consent form "OK to vaccinate" and sign form. Patient should be referred to Station 7 for vaccination.
- If any contraindication/precaution remains after briefly interviewing the vaccinee, screener should stamp the Pandemic Influenza Vaccine Screening/Consent form "DO NOT VACCINATE" and sign form. Patient should be referred to his/her primary care provider and discharged from the clinic
- If the potential vaccinee is unsure of any response, or refuses to respond to the screening questions, the potential vaccinee should be referred to his/her primary care provider and should NOT be vaccinated.
- Nurse/physician will answer any medical questions the potential vaccinee may have.

Station 7: Vaccination

Type of staff: ***Nurse/clerical***

Total staff per 8 hour shift: XX

Physical Requirements: **Able to stand (sit) for at least 8 hours**
Able to administer vaccines to patients for at least 8 hours

- **Set up tables (for vaccination supplies) and chairs (for vaccinees) at Station 7**
- Post the "Vaccination" sign identifying the station, in a location that is clearly visible to incoming potential vaccinees
- Tape the Station 7 procedure card on the desk where each clinic staff working at the station is situated

Forms/Supplies:

- Pandemic influenza vaccine
- Alcohol swabs
- Safety syringes and needles
- Plastic circular bandages
- Sharps container
- Biohazardous waste disposal container
- Antiseptic spray for clean-up
- Gloves
- Handwashing soap
- Paper towels
- Alcohol based hand gel
- Access to handwashing facilities
- Pens
- Trash can
- Tape (to post signs)
- Station 7 procedure cards (to be developed)
- "Vaccination" sign identifying station
- Standing Orders

Procedures:

- Vaccine administrator will do final review for any contraindications/precautions
- Vaccine administrator will answer any questions
- Vaccine administrator will confirm consent form has been signed and person is willing to be vaccinated
- Vaccine administrator will administer pandemic influenza vaccine according to standing orders
- Vaccine administrator will dispose of syringe and needle in sharps container
- Vaccine administrator will apply plastic circular bandage

- Vaccine administrator will record the date of vaccination, site of vaccination, and name & title of vaccinator on the Pandemic Influenza Vaccine Screening/Consent form and keep form
- Send patient to Station 8

Station 8: Post Vaccination Observation/Exit

Type of staff: ***Nurse & Clerical***

Total staff per 8 hour shift: XX

Physical Requirements: **Able to stand (sit) for at least 8 hours**

- **Station 8 should be located in an area that is near the exit of the vaccination clinic**
- Set up table and chairs in Station 8 for clinic staff
- Post the "Post Vaccination Observation" signs identifying the station, in a location that is clearly visible to incoming vaccinees
- Post the "Exit" sign where vaccinees will leave the clinic premises, but where traffic flow is controlled to prevent unauthorized individuals from entering the clinic. Tape the Station 8 procedure card on the desk where it is visible to clinic staff working at the station

Forms/Supplies:

- Pens
- Station 8 procedure card (to be developed)
- "Post Vaccination Observation," and "Exit" signs

Procedures:

- Observe patient post-vaccination
- Ensure patient has:
  - VIS
  - Vaccination Record
- Answer any remaining questions
- Discharge vaccinee from clinic

First Aid Station

Type of staff: ***Nurse/EMT/Physician***

Total staff per 8 hour shift: XX

Physical Requirements: **Able to stand (sit) for at least 8 hours**

- **The First Aid station should be set up near the vaccination area**
- Set up a table for the first aid supplies
- Avoid hazardous areas if oxygen is to be kept at the first aid station
- Post "First Aid" station sign where it is clearly visible

Forms/Supplies:

- Diphenhydramine 50mg ampules
- Syringe 3cc, 1" needle
- Alcohol
- Epi Pen and Junior Epi Pen
- Oxygen (if available)
- External defibrillator (if available)
- Ambubag with mask for both adult and pediatric patients
- Adult airway
- Pediatric airway
- Stethoscope
- Blood pressure cuff for both adult and pediatric patients
- Ammonia inhalants
- Emesis basin
- Disposable thermometers
- Flashlight
- First aid kit
- Eye wash
- Accident Report form
- Standing Orders
- "Referral to Emergency Facility" form
- State of Hawaii Accident Report form
- Telephone

Procedures:

- Consult with clinic physician for any injuries/incidents which occur during the vaccination clinic
- Refer to Standing Orders for acute adverse reactions post-vaccination
- Complete the "Referral to Emergency Facility" form for any acute adverse reactions post-vaccination
- Complete the State of Hawaii Accident Report form for any other injuries/incidents
- Review clinic procedures to ensure safety of vaccination clinic workers and attendees

Appendix N:
Pandemic Influenza Vaccination Standing Orders

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CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU, HAWAII 96801-3378

PANDEMIC INFLUENZA IMMUNIZATION
STANDING ORDERS FOR
PUBLIC HEALTH NURSING BRANCH/COMMUNITY HEALTH DIVISION AND
DISEASE OUTBREAK CONTROL DIVISION
STATE OF HAWAII DEPARTMENT OF HEALTH

The Chief of the Disease Outbreak Control Division authorizes and approves the use of the standing orders for the administration of pandemic influenza vaccine by licensed personnel of the Public Health Nursing Branch and by authorized volunteers and employees of the Disease Outbreak Control Division according to established policies and procedures.

The Department of Health pandemic influenza immunization standing orders were developed by the Disease Outbreak Control Division in collaboration with the Public Health Nursing Branch.

_____ _____

PAUL V. EFFLER, M.D., M.P.H. DATE
Chief, Disease Outbreak Control Division

Adverse Reaction Protocol

State of Hawaii Department of Health	**Disease Outbreak Control Division**	**Page 1 of 8**
Approved By:		**Effective Date: March 5, 2004**
Subject:	**Public Health Nursing & Disease Outbreak Control Division Standing Orders for Administration of Influenza Vaccine**	**Review Date: March 31, 2006**

PROTOCOL FOR THE MANAGEMENT OF ACUTE ADVERSE REACTIONS TO VACCINES & MEDICATIONS

GENERAL GUIDELINES

Personnel administering medications or vaccines must be aware that the recipient could experience an adverse reaction following the injection. Adverse reactions to vaccines are infrequent, but if an allergic reaction does occur, it can be life threatening.

Staff needs to be prepared to recognize & respond immediately and appropriately to such emergencies. All clinic personnel must familiarize themselves with the management protocols contained herein. The medications, equipment, and competent staff necessary to maintain the patency of the airway and to manage cardiovascular collapse must be available immediately.

TYPES OF ADVERSE REACTIONS

Adverse reactions to an injection can range from a general feeling of faintness to a severe allergic reaction. Faintness or syncope are the more common of adverse reactions and are usually self-limited; true allergic reactions are rare.

Symptoms of an allergic reaction may range from itching and hives to life threatening signs such as shortness of breath, wheezing, and/or anaphylactic shock. Allergic reactions may begin almost immediately after the injection is given. Anaphylaxis is characterized by acute, progressive, respiratory distress and cardiovascular collapse (shock). Early recognition of an anaphylactic reaction is important because death can occur within minutes following the first symptoms.

It is important to distinguish between faintness/syncope and anaphylaxis. Should an adverse reaction occur, assess the patient and FOLLOW THE PROCEDURES PROVIDED IN THE ATTACHED PROTOCOL.

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Subject:	**Public Health Nursing & Disease Outbreak Control Division Standing Orders for Administration of Influenza Vaccine**	**Review Date: March 31, 2006**

BASIC FIRST AID AND INITIAL ASSESSMENT PROCEDURES

Airway: Ensure the airway is clear; remove dentures and keep tongue from obstructing the oropharynx.

Breathing: Check for breathing; auscultate (listen for sounds at the chest), if necessary. When required, assist with breathing by using the ambubag or perform mouth-to-mouth resuscitation (using barrier device).

Circulation: Check carefully for a pulse; in case of cardiac arrest, initiate CPR.

If an emergency occurs at the clinic, always call 911 immediately and request urgent medical assistance. Any individual with an allergic reaction, even those considered to be minor, must be referred to a physician.

Document any occurrence of an allergic reaction and report the incident to the Department of Health, Immunization Branch.

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MANAGEMENT OF ANAPHYLAXIS or SHOCK-LIKE STATE IN ADULTS

DESCRIPTION

Signs and symptoms include flushing of the face, shortness of breath, difficulty breathing with audible wheezing or stridor. The pulse may be weak, irregular, or non-palpable.

This is a true emergency.

ACTION

1. CALL AN AMBULANCE IMMEDIATELY

Place the patient in recumbent position. Make sure the airway is clear. Use ambubag or other forms of assisted respiration if necessary. If no pulse, begin CPR.

2. ADMINISTER EPINEPHRINE

Administer 0.3 –0.5 ml of 1:1000 epinephrine intramuscularly (IM).

3. ADMINISTER DIPHENHYDRAMINE (Benadryl®)

Administer 50 mg. of DIPHENHYDRAMINE IM (Benadryl®) at a different site than that given for the epinephrine. Maximum dose is 50 mg.

4. REPEAT EPINEPHRINE

Administer 0.3 - 0.5 ml dose of 1:1000 epinephrine intramuscularly at 5-15 minute intervals up to two times after first dose, if necessary.

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MANAGEMENT OF ANAPHYLAXIS or SHOCK-LIKE STATE IN ADULTS

DESCRIPTION	ACTION
	5. COMPLETE "REFERRAL TO EMERGENCY FACILITY" FORM. **Refer the patient to a hospital or physician, even if the patient appears stable.** Send copy of "Referral to Emergency Facility" form to Department of Health, Immunization Branch.

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MANAGEMENT OF ANAPHYLAXIS or SHOCK-LIKE STATE IN INFANTS AND CHILDREN

DESCRIPTION

Signs and symptoms include flushing of the face, shortness of breath, difficulty breathing with audible wheezing or stridor. The pulse may be weak, irregular, or non-palpable.

This is a true emergency.

ACTION

1. Call an AMBULANCE IMMEDIATELY

Place the patient in recumbent position. Make sure the airway is clear. Use ambubag or other forms of assisted respiration if necessary. If no pulse, begin CPR.

2. ADMINISTER EPINEPHRINE

INFANTS (Birth to 12 months old)
Administer 0.03 –0.1 ml of 1:1000 epinephrine intramuscularly (IM). Repeat every 10-20 minutes up to 3 doses. See attached table for dosages.

CHILDREN
Administer 0.1 to 0.3 ml of 1:1000 epinephrine intramuscularly (IM). Repeat every 10-20 minutes up to 3 doses. See attached table for dosages.

Maximum dose for child ≤60 pounds is 0.3 ml

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MANAGEMENT OF ANAPHYLAXIS or SHOCK-LIKE STATE IN INFANTS AND CHILDREN

DESCRIPTION

ACTION

3. ADMINISTER DIPHENHYDRAMINE (Benadryl®)

Administer one dose of DIPHENHYDRAMINE IM (Benadryl®) at a different site than that given for epinephrine. See attached table for dosages.

Maximum dose of diphenhydramine (Benadryl®) for child ≤ 60 pounds is 25 mg.

DO NOT ADMINISTER DIPHENHYDRAMINE (Benadryl®) TO INFANTS LESS THAN 1 YEAR OLD.

4. COMPLETE "REFERRALTO EMERGENCY FACILITY" FORM.

Refer the patient to a hospital or physician, even if the patient appears stable.

Send copy of "Referral to Emergency Facility" form to Department of Health, Immunization Branch.

State of Hawaii Department of Health	**Disease Outbreak Control Division**	**Page 7 of 8**
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MANAGEMENT OF FAINTING, DIZZINESS OR EXCITABILITY IN ADULTS AND CHILDREN

SYNCOPE (Fainting)

DESCRIPTION	ACTION
Patient is breathing normally, although respiration may be shallow. There is no respiratory distress (i.e., wheezing, chest tightness, or other impairment with breathing). The pulse is regular, but patient is unresponsive.	Place the patient in the recumbent position and check the pulse and respirations. Provide ammonia inhalant if consciousness is not regained within one minute. Once consciousness is regained, observe in a quiet area for a minimum of 15 minutes. Call an ambulance if patient has not completely recovered within 20 minutes. Call an ambulance immediately if the patient was injured in a fall while fainting.

"LIGHT-HEADEDNESS"

DESCRIPTION	ACTION
Patient complains of feeling faint, dizzy, or tired. Appears pale and may yawn. Pulse and respirations are generally steady. There is no respiratory distress (wheezing, chest tightness or other impairment with breathing).	Allow client to lie down and elevate lower extremities, or have client sit in a head-down position for several minutes. Make sure breathing is clear and unlabored. Monitor to ensure patient improves.

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MANAGEMENT OF FAINTING, DIZZINESS OR EXCITABILITY IN ADULTS AND CHILDREN

HYPERVENTILATION OR EXCITABILITY

DESCRIPTION	ACTION
Rapid breathing with good air movement and no wheezing or stridor. Patient appears anxious, not tired or pale. May complain of light-headedness.	Make sure airway is clear. Instruct client to sit or lie down and slow down breathing. Have patient breathe into a paper bag to correct the hyperventilation. Provide support and reassurance. Monitor until the episode subsides.

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HONOLULU, HAWAII 96801-3378

REFERRAL TO EMERGENCY FACILITY

DATE:___/___/___ LOCATION OF INCIDENT: _____

NAME: _____ BIRTHDATE: ___/___/___

IMMUNIZATION ADMINISTERED: **PANDEMIC INFLUENZA VACCINE**

REACTION(S):
- ☐ Itching & hives
- ☐ Wheezing
- ☐ Difficulty breathing
- ☐ Swelling of Mouth & Throat
- ☐ Hypotension: BP: _____ Pulse: _____ Respiration: _____
- ☐ Other: _____

ACTIONS:
1. EMERGENCY PERSONNEL CONTACTED: TIME: ___:___a.m./p.m.

2. Administration of epinephrine 1:1000 intramuscularly (IM)
   _____ ml at ___:___a.m./p.m. (Time), _____(Site).

   Repeated at ___:___a.m./p.m. (Time), _____ml _____(Site).

3. Administration of Benadryl **(DO NOT ADMINISTER BENADRYL TO INFANTS LESS THAN 1 YEAR OF AGE)**:
   Diphenhydramine (Benadryl) _____mg _____cc, Intramuscularly (IM) given at
   ___:___a.m./p.m. (Time), _____(Site).

4. Referral (Name of Facility):_____

5. Time departed for Emergency Facility: ___:___a.m./p.m.

_____ _____
PHN/Vaccine Administrator Name & Title (Please Print) PHN/Vaccine Administrator Signature

Appendix O:
Antiviral Agents: Background Information

INFLUENZA (FLU)

FACT SHEET

Antiviral Agents for Influenza: Background Information for Clinicians

Introduction
Four prescription medications with antiviral activity against influenza viruses are commercially available in the United States (amantadine, rimantadine, oseltamivir, zanamivir). The four drugs are classified into two categories, the adamantane derivatives and the neuraminidase inhibitors, on the basis of their chemical properties and activities against influenza viruses.

Controlled clinical trials have demonstrated the efficacy of all four antiviral medications in reducing symptom duration when used for treatment of influenza infections. Three of the antiviral drugs have been approved for use as chemoprophylaxis. Table 1 summarizes information about the use of antiviral medications in the United States for influenza.

Neuraminidase Inhibitors (Zanamivir, Oseltamivir)
The neuraminidase inhibitors, zanamivir and oseltamivir, are chemically related drugs that have activity against both influenza A and B viruses.

- Zanamivir is an orally inhaled powdered drug that is approved for treatment of influenza in persons aged 7 years and older. Zanamivir is not approved for chemoprophylaxis of influenza.
- Oseltamivir is an orally administered capsule or oral suspension that is approved for treatment of influenza in persons aged 1 year and older. Oseltamivir is also approved for chemoprophylaxis of influenza in persons aged 13 years and older.

How do the neuraminidase inhibitor drugs work?
Zanamivir and oseltamivir block the active site of the influenza viral enzyme neuraminidase, which is common to both influenza A and influenza B viruses. This effect results in viral aggregation at the host cell surface and reduces the number of viruses released from the infected cell.

How effective are the neuraminidase inhibitor drugs?
Treatment
When used within 48 hours of illness onset, both drugs decrease shedding and reduce the duration of influenza symptoms by approximately 1 day compared with placebo. Summary results from randomized, placebo-controlled double-blinded studies of oseltamivir showed a significant reduction in influenza related lower respiratory tract complications (pneumonia and bronchitis) associated with antibiotic use and a significant reduction in hospitalizations. These impacts occurred in both healthy and high-risk adolescents and adults. No studies have assessed the impact of antiviral drug therapy on mortality. For both drugs, the recommended duration of treatment is 5 days. One study of healthy and high-risk adolescents and adults treated with oseltamivir compared with placebo showed a reduction in influenza-related lower respiratory tract complications associated with antibiotic therapy.

Chemoprophylaxis
Oseltamivir, but not zanamivir, is approved for chemoprophylaxis of influenza.

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Side effects of the neuraminidase inhibitor drugs:
Zanamivir and oseltamivir were approved in 1999, and therefore clinical experience to assess adverse effects is limited.

- Oseltamivir has been associated with nausea and vomiting during controlled treatment studies compared with placebo.
- Nausea, diarrhea, dizziness, headache, and cough have been reported during zanamivir treatment, but the frequencies of adverse events were similar to inhaled powdered placebo drug.
- Few serious CNS adverse effects have been reported for the neuraminidase inhibitor drugs.
- Zanamivir generally is not recommended for use in persons with underlying respiratory disease because of the risk of precipitating bronchospasm. Serious adverse respiratory events resulting from zanamivir use have been reported in persons with chronic pulmonary disease and in healthy adults.
- There are limited data about the use of neuraminidase inhibitors during pregnancy.

Antiviral resistance to the neuraminidase inhibitor drugs:
Data are limited on antiviral resistance to the neuraminidase inhibitor drugs.

- Studies have identified some evidence for the development of neuraminidase inhibitor-resistant influenza virus strains, but the studies have been limited by the short time that the neuraminidase inhibitors have been available for clinical use and by the lack of optimal methodology to detect viral resistance to these drugs.
- One pediatric study of oseltamivir treatment reported that 5.5% of influenza isolates had evidence of neuraminidase resistance.
- In vitro studies have found that cross-resistance occurs between the neuraminidase inhibitor drugs, but does not affect susceptibility to adamantane drugs.

Adamantane Derivatives (Amantadine, Rimantadine)
The adamantane derivatives, amantadine and rimantadine, are chemically related, orally administered drugs that are approved for treatment and chemoprophylaxis of influenza A. Amantadine and rimantadine specifically inhibit replication of influenza A viruses, but not influenza B viruses.

- Amantadine is approved for the treatment of influenza A in children aged 1 year and older and in adults.
- Rimantadine is approved for treatment of influenza A in adults.
- Both drugs are approved for chemoprophylaxis to prevent influenza A in people aged 1 year and older.

Antiviral activity: How do the adamantane drugs work?
Amantadine and rimantadine are thought to interfere with influenza A virus M2 protein, a membrane ion channel protein, and inhibit virus uncoating, which inhibits virus replication, resulting in decreased viral shedding.

How effective are the adamantane drugs?
Treatment
When administered within 48 hours of illness onset, controlled studies have found that both drugs decrease viral shedding and reduce influenza A illness by approximately 1 day compared with placebo. The usual recommended duration of treatment is 5 days.

Chemoprophylaxis
When used for chemoprophylaxis, amantadine and rimantadine are approximately 70% - 90% effective in preventing symptoms of influenza A illness. The efficacy and effectiveness of amantadine and rimantadine

Antiviral Agents for Influenza: Background Information for Clinicians
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to prevent complications of influenza A are unknown. Both drugs are effective when used for chemoprophylaxis during outbreaks of influenza A in institutions, such as nursing homes.

Side effects of the adamantane drugs:
Chemoprophylactic use of both drugs has been associated with

- Gastrointestinal and central nervous system (CNS) adverse effects in healthy adults and elderly nursing home residents.
- CNS toxicity, such as lightheadedness, difficulty concentrating, nervousness, insomnia, and seizures in patients with pre-existing seizure disorders. Rimantadine use has been associated with fewer CNS side effects than amantadine.

Amantadine is teratogenic and embryo toxic in animals. Rimantadine has not been found to be mutagenic. The safety of amantadine and rimantadine when used during pregnancy has not been established.

Antiviral resistance:
When used for treatment, amantadine and rimantadine have been associated with the rapid development of resistant viruses.

- Drug-resistant viruses can be spread to contacts of treated individuals, including persons receiving chemoprophylaxis.
- The mechanism of resistance is the same for both adamantane derivatives, and influenza A viruses resistant to one drug are also resistant to the other.
- No evidence indicates that adamantane-resistant viruses are more transmissible or more virulent than adamantane-sensitive viruses.
- Resistance to adamantanes does not affect susceptibility to neuraminidase inhibitors.
- Most influenza viruses isolated from the general population are not resistant to amantadine or rimantadine.

Adamantanes Compared with Neuraminidase Inhibitors

- No controlled studies have directly compared the adamantanes (amantadine, rimantadine) with the neuraminidase inhibitors (zanamivir, oseltamivir) for treatment or chemoprophylaxis of influenza A. A meta-analysis and a systematic review of published studies concluded that both the adamantanes and the neuraminidase inhibitor drugs reduce the duration of symptoms of influenza A by approximately 1 day compared with placebo.
- Data are very limited on the efficacy or effectiveness of any of the antiviral drugs in preventing complications from influenza in high-risk populations.
- The costs, routes of administration, adverse effects, contraindications, and potential for antiviral resistance differ among the four drugs.
- There are insufficient data on the use of any of the four antiviral agents during pregnancy.
- In general, clinical studies have reported that the neuraminidase inhibitors have resulted in fewer serious side effects compared to placebo than have been reported for amantadine and rimantadine. However, the relative frequency or severity of adverse effects of the adamantanes compared with the neuraminidase inhibitors has not been directly compared in controlled trials when used for treatment or chemoprophylaxis.

Antiviral Agents for Influenza: Background Information for Clinicians
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Table 1: Recommended Daily Dosage of Influenza Antiviral Medications for Treatment and Prophylaxis

	Age Groups (yrs)				
Antiviral Agent	**1-6**	**7-9**	**10-12**	**13-64**	**≥65**
Amantadine*					
Treatment, influenza A	5mg/kg/day up to 150 mg in 2 divided doses†	5mg/kg/day up to 150 mg in 2 divided doses†	100mg twice daily§	100mg twice daily§	≤100 mg/day
Prophylaxis, influenza A	5mg/kg/day up to 150 mg in two divided doses†	5mg/kg/day up to 150 mg in two divided doses†	100mg twice daily§	100mg twice daily§	≤100 mg/day
Rimantadine¶					
Treatment,** influenza A	NA††	NA	NA	100mg twice daily§ §§	100 mg/day
Prophylaxis, influenza A	5mg/kg/day up to 150 mg in two divided doses†	5mg/kg/day up to 150 mg in two divided doses†	100mg twice daily§	100mg twice daily§	100 mg/day¶¶
Zanamivir* †††**					
Treatment, influenza A and B	NA	10mg twice daily	10mg twice daily	10mg twice daily	10mg twice daily
Oseltamivir					
Treatment, §§§ influenza A and B	Dose varies by child's weight¶¶¶	Dose varies by child's weight¶¶¶	Dose varies by child's weight¶¶¶	75mg twice daily	75mg twice daily
Prophylaxis, influenza A and B	NA	NA	NA	75mg/day	75mg/day

NOTE: Amantadine manufacturers include Endo Pharmaceuticals (Symmetrel ®--tablet and syrup) and Geneva Pharms Tech (Amantadine HCL--capsule); USL Pharma (Amantadine HCL – capsule and tablet); and Alpharma, Carolina Medical, Copley Pharmaceutical, HiTech Pharma, Mikart, Morton Grove, and Pharmaceutical Associates (Amantadine HCL--syrup). Rimantadine is manufactured by Forest Laboratories (Flumadine (R)--tablet and syrup); Corepharma , Impax Labs (Rimantadine HCL – tablet), and Amide Pharmaceuticals (Rimantadine HCL – tablet). Zanamivir is manufactured by Glaxo Smithkline (Relenza (R) -- inhaled powder). Oseltamivir is manufactured by Hoffman-LaRoche, Inc. (Tamiflu (R) — tablet). Information based on data published by the US Food and Drug Administration at www.fda.gov.

* The drug package insert should be consulted for dosage recommendations for administering amantadine to persons with creatinine clearance ≤50 ml/min/1.73m^2 .

† 5 mg/kg of amantadine or rimantadine syrup = 1 tsp/22 lbs.

§ Children >10 years who weigh <40 kg should be administered amantadine or rimantadine at a dosage of 5 mg/kg/day.

¶ A reduction in dosage to 100 mg/day of rimantadine is recommended for persons who have severe hepatic dysfunction or those with creatinine clearance ≤10 mL/min. Other persons with less severe hepatic or renal dysfunction taking 100 mg/day of rimantadine should be observed closely, and the dosage should be reduced or the drug discontinued, if necessary.

** Only approved by FDA for treatment among adults.

†† Not applicable.

§§ Rimantadine is approved by FDA for treatment among adults. However, certain experts in the management of influenza consider it appropriate also for treatment among children. (See American Academy of Pediatrics, 2000 Red Book.)

¶ ¶ Older nursing-home residents should be administered only 100 mg/day of rimantadine. A reduction in dosage to 100 mg/day should be considered for all persons aged ≥65 years if they experience possible side effects when taking 200 mg/day.

***Zanamivir administered via inhalation using a plastic device included in the medication package. Patients will benefit from instruction and demonstration of the correct use of the device.

††† Zanamivir is not approved for prophylaxis.

§§§ A reduction in the dose of oseltamivir is recommended for persons with creatinine clearance <30 ml/min.

¶¶¶ The dose recommendation for children who weigh ≤15 kg is 30 mg twice a day, for >15 to 23 kg children the dose is 45 mg twice a day, for >23 to 40 kg children the dose is 60 mg twice a day, and for children >40 kg, the dose is 75 mg twice a day.

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Appendix P:
Priority Groups for Antiviral Medications

Given the current limited world supply of oseltamivir (and other antivirals) and the cost, prioritization for treatment may be required. The following pages are excerpts from the November 2005 HHS Pandemic Influenza Plan, Appendix D of Part 1 – Strategic Plan, which outlines the national recommendations for antiviral prioritization and which will guide Hawai`i's public health officials in prioritizing antivirals and their application in our State. Refer to the HHS Pandemic Influenza Plan at http://www.hhs.gov/pandemicflu/plan/ for the full details regarding critical assumptions and rationale for the prioritization.

Any further prioritization, extension, or other modification of these recommendations for the greater benefit of the people of Hawai`i will be addressed by the Ad Hoc Advisory Group, which will forward recommendations to the Director of Health.

Table D-2: Antiviral Drug Priority Group Recommendations*

	Group	Estimated population (millions)	Strategy**	# Courses (millions)		Rationale
				For target group	Cumulative	
1	Patients admitted to hospital***	10.0	T	7.5	7.5	Consistent with medical practice and ethics to treat those with serious illness and who are most likely to die
2	Health care workers (HCW) with direct patient contact and emergency medical service (EMS) providers[4]	9.2	T	2.4	9.9	Healthcare workers are required for quality medical care. There is little surge capacity among healthcare sector personnel to meet increased demand.
3	Highest risk outpatients—immunocompromised persons and pregnant women	2.5	T	0.7	10.6	Groups at greatest risk of hospitalization and death; immunocompromised cannot be protected by vaccination.
4	Pandemic health responders (public health, vaccinators, vaccine and antiviral manufacturers), public safety (police, fire, corrections), and government decision-makers	3.3	T	0.9	11.5	Groups are critical for an effective public health response to a pandemic.
5	Increased risk outpatients—young children 12-23 months old, persons ≥ 65 yrs old, and persons with underlying medical conditions	85.5	T	22.4	33.9	Groups are at high risk for hospitalization and death.
6	Outbreak response in nursing homes and other residential settings	NA	PEP	2.0	35.9	Treatment of patients and prophylaxis of contacts is effective in stopping outbreaks; vaccination priorities do not include nursing home residents
7	HCWs in emergency departments, intensive care units, dialysis centers, and EMS providers	1.2	P	4.8	40.7	These groups are most critical to an effective healthcare response and have limited surge capacity. Prophylaxis will best prevent absenteeism.
8	Pandemic societal responders (e.g., critical infrastructure groups as defined in the vaccine priorities) and HCW without direct patient contact	10.2	T	2.7	43.4	Infrastructure groups that have impact on maintaining health, implementing a pandemic response, and maintaining societal functions
9	Other outpatients	180	T	47.3	90.7	Includes others who develop influenza and do not fall within the above groups
10	Highest risk outpatients	2.5	P	10.0	100.7	Prevents illness in the highest risk groups for hospitalization and death.
11	Other HCWs with direct patient contact	8.0	P	32.0	132.7	Prevention would best reduce absenteeism and preserve optimal function.

[4] This is inclusive of Federal healthcare providers to Indian Nations and Tribes.

*The committee focused its deliberations on the domestic U.S. civilian population. NVAC recognizes that Department of Defense (DoD) needs should be highly prioritized. A separate DoD antiviral stockpile has been established to meet those needs. Other groups also were not explicitly considered in deliberations on prioritization. These include American citizens living overseas, non-citizens in the U.S., and other groups providing national security services such as the border patrol and customs service.

**Strategy: Treatment (T) requires a total of 10 capsules and is defined as 1 course. Post-exposure prophylaxis (PEP) also requires a single course. Prophylaxis (P) is assumed to require 40 capsules (4 courses) though more may be needed if community outbreaks last for a longer period.

***There are no data on the effectiveness of treatment at hospitalization. If stockpiled antiviral drug supplies are very limited, the priority of this group could be reconsidered based on the epidemiology of the pandemic and any additional data on effectiveness in this population.

Appendix Q:

Influenza Antiviral Medications:

Interim Chemoprophylaxis and Treatment Guidelines

INFLUENZA (FLU)

GUIDELINES & RECOMMENDATIONS

Influenza Antiviral Medications: 2004-05 Interim Chemoprophylaxis and Treatment Guidelines

November 3, 2004 (Revised with updated information on antiviral use in children)

Influenza antiviral medications are an important adjunct to influenza vaccine in the prevention and treatment of influenza. In the setting of the current vaccine shortage, CDC has developed interim recommendations on the use of antiviral medications for the 2004-05 influenza season. These interim recommendations are provided, in conjunction with previously issued recommendations on use of vaccine, to reduce the impact of influenza on persons at high risk for developing severe complications secondary to infection. The recommendations are not intended to guide the use of these medications in other situations, such as outbreaks of avian influenza. These interim recommendations may be updated as more information on the supply of influenza vaccine and antiviral medications becomes available.

Background

Influenza antiviral medications have long been used to limit the spread and impact of institutional influenza outbreaks. They also are used for treatment and chemoprophylaxis of persons in other settings. In the United States, four antiviral medications (amantadine, rimantadine, oseltamivir, and zanamivir) are approved for treatment of influenza, though limited supplies of zanamivir are currently available. When used for treatment within the first two days of illness, all four antiviral medications are similarly effective in reducing the duration of illness by one or two days. Only three antiviral medications (amantadine, rimantadine, and oseltamivir) are approved for chemoprophylaxis of influenza. **More detailed information about each medication, including dosage and approved persons for use, may be found in Antiviral Information for Health Care Professionals.**

2004-05 Antiviral Medications Usage Guidelines

CDC is issuing interim recommendations for the use of antiviral medications during the 2004-05 season. Local availability of these medications may vary from community to community, which could impact how these medications should be used.

1. CDC encourages the use of **amantadine or rimantadine for chemoprophylaxis** and **use of oseltamivir or zanamivir for treatment** as supplies allow, in part to minimize the development of adamantane resistance among circulating influenza viruses.

2. **People who are at high risk of serious complications** from influenza may benefit most from antiviral medications. Therefore, in general, people who fall into these high risk groups should be given **priority for use of influenza antiviral medications**:

Treatment

- Any person experiencing a potentially life-threatening influenza-related illness should be treated with antiviral medications.

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Influenza Antiviral Medications: 2004-05 Interim Chemoprophylaxis and Treatment Guidelines
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- Any person at high risk for serious complications of influenza and who is within the first 2 days of illness onset should be treated with antiviral medications. (Pregnant women should consult their primary provider regarding use of influenza antiviral medications.)

Antiviral Use in Children: Rimantadine is approved for prophylaxis of influenza among children aged ≥1 year and for treatment and prophylaxis of influenza among adults. Although rimantadine is approved only for prophylaxis of influenza among children, certain specialists in the management of influenza consider it appropriate for treatment of influenza among children. Also available for treatment of children are amantadine (children aged ≥1 year), oseltamivir (children aged ≥1 year), or zanamivir (children aged ≥7 years).

Chemoprophylaxis

- All persons who live or work in **institutions** caring for people at high risk of serious complications of influenza infection should be given antiviral medications in the event of an institutional outbreak. This includes nursing homes, hospitals, and other facilities caring for persons with immunosuppressive conditions, such as HIV/AIDS. When vaccine is available, vaccinated staff require chemoprophylaxis only for the 2-week period following vaccination. Vaccinated and unvaccinated residents should receive chemoprophylaxis for the duration of institutional outbreak activity. Rapid tests or other influenza tests should be used to confirm influenza as the cause of outbreaks as soon as possible. However, treatment and chemoprophylaxis should be initiated if influenza is strongly suspected and test results are not yet available. Other outbreak control efforts such as cohorting of infected persons, and the practice of respiratory hygiene and other measures also should be implemented. For further information on detection and control of influenza outbreaks in acute care facilities, see Detection and Control of Influenza Outbreaks in Acute Care Facilities.
- All persons at high risk of serious influenza complications should be given antiviral medications if they are likely to be exposed to others infected with influenza. For example, when a high-risk person is part of a family or household in which someone else has been diagnosed with influenza, the exposed high-risk person should be given chemoprophylaxis for 7 days.

3. Antiviral medications can be **considered** in other situations when the available supply of such medications is locally adequate.

    - **Chemoprophylaxis** of persons in communities where influenza viruses are circulating, which typically lasts for 6-8 weeks:

        - Persons at high risk of serious complications who are not able to get vaccinated.
        - Persons at high risk of serious complications who have been vaccinated but have not had time to mount an immune response to the vaccine. In adults, chemoprophylaxis should occur for a period of 2 weeks after vaccination. In children aged <9 years, chemoprophylaxis should occur for 6 weeks after the first dose, or 2 weeks after the second dose, depending on whether the child is scheduled to receive one or two doses of vaccine.
        - Persons with immunosuppressive conditions who are not expected to mount an adequate antibody response to influenza vaccine.
        - Health-care workers with direct patient care responsibilities who are not able to obtain vaccine.

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Influenza Antiviral Medications: 2004-05 Interim Chemoprophylaxis and Treatment Guidelines
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- **Treatment** of infected adults and children aged >1 year who do not have conditions placing them at high risk for serious complications secondary to influenza infection.

4. Where the supplies of both influenza vaccine and influenza antiviral medications may not be sufficient to meet demand, CDC does not recommend the use of influenza antiviral medications for chemoprophylaxis of non-high risk persons in the community.

Private Sector Sources of Influenza Antiviral Medications

Pharmaceutical distributors should be contacted directly for availability and procurement of antiviral medications.

Strategic National Stockpile

The United States has a limited supply of influenza antiviral medications stored in the Strategic National Stockpile for emergency situations. Efforts are underway by Health and Human Services to procure additional supplies of antiviral medications. Some of the supply will be held in reserve in the event of an influenza pandemic. However, some of the supply will be made available to States and Territories for use in **outbreak settings**, as might occur in a hospital or long term care facility.

Requesting Influenza Antiviral Medications from the SNS

Influenza antiviral medications in the SNS can be requested **only by State or Territory Health Departments**. Institutions (hospitals or long-term care facilities) experiencing an urgent need for such medications should convey their request to the State or Territory Health Department.

1. The State or Territory Health Department should call (770) 488-7100, the CDC 24/7 emergency number, to make a request for antiviral medications. A logistics plan is being drafted and will be available to all state and territorial health departments in the near future.
2. The State or Territory Health Department should indicate that there is an urgent priority use situation (as defined previously) that can be addressed by use of antiviral medications, and should indicate that all reasonable efforts have been made to procure influenza antiviral medications from private distributors.

For more information, visit www.cdc.gov/flu or call the CDC Flu Information Line at (800) CDC-INFO (English and Spanish) or (800) 243-7889 (TTY).

Appendix R:

Hawai`i Revised Statutes 325-8

§325-8 Infected persons and quarantine. (a) As used in this section:

"Communicable disease" means any disease declared to be "communicable" by the director of health.

"Dangerous disease" means a disease as defined in section 325-20.

"Quarantine" means the compulsory physical separation, including the restriction of movement or confinement of individuals or groups believed to have been exposed to or known to have been infected with a contagious disease, from individuals who are believed not to have been exposed or infected, by order of the department or a court of competent jurisdiction.

(b) In implementing a quarantine, the dignity of the individual quarantined shall be respected at all times and to the greatest extent possible, consistent with the objective of preventing or limiting the transmission of the disease to others. The needs of individuals quarantined shall be addressed in as systematic and competent a fashion as is reasonable under the circumstances. To the greatest extent possible, the premises in which individuals are quarantined shall be maintained in a safe and hygienic manner, designed to minimize the likelihood of further transmission of infection or other harm to individuals subject to quarantine. Adequate food, clothing, medication, and other necessities, access to counsel, means of communication with those in and outside these settings, and competent medical care shall be provided to the person quarantined.

To the greatest extent possible, cultural and religious beliefs shall be considered in addressing the needs of quarantined individuals. The department may establish and maintain places of quarantine and quarantine any individual by the least restrictive means necessary to protect the public health.

The department shall take all reasonable means to prevent the transmission of infection between or among quarantined individuals. The quarantine of any individual shall be terminated when the director determines that the quarantine of that individual is no longer necessary to protect the public health.

(c) An individual subject to quarantine shall obey the department's rules and orders, shall not go beyond the quarantined premises, and shall not put the individual's self in contact with any individual not subject to quarantine other than a physician, health care provider, or individual

authorized to enter a quarantined premises by the department. Violation of any of the provisions of this subsection is a misdemeanor.

(d) No individual, other than an individual authorized by the department, shall enter a quarantined premises. Any individual entering a quarantined premises without permission of the department shall be guilty of a misdemeanor. If, by reason of an unauthorized entry into a quarantined premises, the individual poses a danger to public health, the individual may be subject to the quarantine pursuant to this section.

(e) Before quarantining an individual, the department shall obtain a written, ex parte order from a court of this State authorizing such action. A petition for an ex parte order shall be filed with the circuit court of the circuit in which the individual resides, is suspected of residing, or is quarantined under subsection (f). Proceedings on or related to a petition for an ex parte order shall be a civil action. The court shall grant an ex parte order upon finding that probable cause exists to believe a quarantine is warranted pursuant to this section. A copy of the ex parte order shall be given to the individual quarantined, along with notification that the individual has a right to a hearing under this section.

(f) Notwithstanding subsection (e), the department may quarantine an individual without first obtaining a written, ex parte order from the court if any delay in the quarantine of the individual would pose an immediate threat to the public health. Following such a quarantine, the department shall promptly obtain a written, ex parte order from the court authorizing the quarantine.

(g) An individual quarantined pursuant to subsection (e) or (f) shall have the right to a court hearing to contest the ex parte order. If the individual, the individual's guardian ad litem, or the individual's counsel requests a hearing, the hearing shall be held within fourteen days of filing of the request. The request shall be in writing and shall be filed with the circuit court in the circuit in which the individual is quarantined. A request for a hearing shall not alter or stay the quarantine of the individual. The department shall be notified of the request for a hearing at least ten days before the hearing. At the hearing, the department shall show that the quarantine is warranted pursuant to this section. If, after hearing all relevant evidence, the court finds that the criteria for quarantine under subsection (i) have been met by clear and convincing evidence, the court shall authorize the continued quarantine of the individual.

(h) On or after thirty days following the issuance of an ex parte order or a hearing as provided for in this section, an individual quarantined

pursuant to this section may request in writing a court hearing to contest the continued quarantine. The hearing shall be held within fourteen days of the filing of the request. The request shall be in writing and shall be filed with the circuit court for the circuit in which the individual is quarantined. A request for a hearing shall not alter or stay the order of quarantine. The department shall be notified of the request for a hearing at least ten days before the hearing. At the hearing, the department shall show that continuation of the quarantine is warranted pursuant to this section. If, after hearing all relevant evidence, the court finds that the criteria for the quarantine under subsection (i) have been met by clear and convincing evidence, the court shall authorize the continued quarantine of the individual.

(i) A court may order an individual to be quarantined if the court finds that:

(1) The individual is reasonably believed to have been exposed to or known to have been infected with a communicable or dangerous disease; and

(2) A quarantine is the least restrictive means by which the public's health, safety, and welfare can be protected, due to the transmittable nature of the communicable or dangerous disease and the lack of preventive measures, or due to the failure by the individual quarantined to accept or practice less restrictive measures to prevent disease transmission.

(j) An individual quarantined pursuant to this section may request a hearing in the courts of this State regarding the individual's treatment and the terms and conditions of the quarantine. Upon receiving a request, the court shall fix a date for a hearing. The hearing shall take place within fourteen days of the filing of the request with the court. The request for a hearing shall not alter or stay the order of quarantine. The department shall be notified of the request for a hearing at least ten days before the hearing. If, upon a hearing, the court finds that the quarantine of the individual is not in compliance with subsection (b), the court may fashion remedies reasonable under the circumstances and consistent with this chapter.

(k) Judicial decisions shall be based upon clear and convincing evidence, and a written record of the disposition of the case shall be made and retained. If the personal appearance before the court of a quarantined individual is determined by the director to pose a threat to individuals at the proceeding and the quarantined individual does not waive the right to attend the proceeding, the court shall appoint a guardian ad litem as

provided in article V of chapter 560, to represent the quarantined individual throughout the proceeding or shall hold the hearing via any means that allow all parties to participate as fully and safely as is reasonable under the circumstances.

(l) Upon written request, the court shall appoint counsel at state expense to represent individuals or groups of individuals who are or who are about to be quarantined pursuant to this section and who are not otherwise represented by counsel. Adequate means of communication between those individuals or groups and their counsel and guardians ad litem shall be provided.

(m) In any proceeding brought pursuant to this section, in consideration of the protection of the public's health, the severity of the emergency, and the availability of necessary witnesses and evidence, the court may order the consolidation of claims by individuals involved or to be affected by a quarantine where:

(1) The number of individuals involved or to be affected by a quarantine is so large as to render individual participation impractical;

(2) There are questions of law or fact common to the individual claims or rights to be determined;

(3) The group claims or rights to be determined are typical of the affected individuals' claims or rights; and

(4) The entire group will be adequately represented in the consolidation.

(n) Each individual quarantined shall be responsible for the costs of food, lodging, and medical care, except for those costs covered and paid by the individual's health plan. [PC 1869, c 59, §26; am L 1911, c 125, §4; RL 1925, §935; RL 1935, §1095; am L 1941, c 262, §1; RL 1945, §2307; RL 1955, §49-8; am L Sp 1959 2d, c 1, §19; HRS §325-8; gen ch 1985; am L 2002, c 169, §5]

Appendix S:
"Ex Parte Petition for Order of Quarantine" Template

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Attorneys for Department of Health

IN THE CIRCUIT COURT OF THE FIRST CIRCUIT

STATE OF HAWAI´I

In the Matter of the Quarantine of JOHN DOE, Respondent.	Civil No. _____ (Special Proceeding) DEPARTMENT OF HEALTH'S PETITION FOR AN EX PARTE ORDER OF QUARANTINE; DECLARATION OF PAUL EFFLER, M.D.; EXHIBIT "A"; EX PARTE ORDER FOR QUARANTINE; AND CERTIFICATE OF SERVICE JUDGE:

34221

DEPARTMENT OF HEALTH'S PETITION
FOR AN EX PARTE ORDER FOR QUARANTINE

1. Pursuant to section 325-8, Hawai´i Revised Statutes, the Department of Health requests this honorable Court to issue an ex parte order for the quarantine of

Respondent John Doe, a person who resides, is suspected of residing, or is quarantined within the First Circuit of the State of Hawai´i.

2. The Petitioner's physician is:

Name: Paul Effler, M.D.

Agency: State Epidemiologist, Department of Health

Address: , Hawai´i 96813

Telephone: 586-????

3. The following information concerns the Respondent:

Name: John Doe

Address: , Hawai´i 96

Age:

4. Pursuant to subsection 325-8(f), Hawai´i Revised Statutes, the Department of Health is currently quarantining the Respondent because any delay in the quarantine of the Respondent would pose an immediate threat to the public health.

5. An ex parte order for quarantine is necessary because probable cause exists to believe that the Respondent is reasonably believed to have been exposed to or known to have been infected with a communicable[22] or dangerous disease[23] and quarantine is the least restrictive means by which the public's health, safety, and welfare

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[22] "Communicable disease" means any disease declared to be "communicable" by the Director of Health. HRS § 325-5 (2004). Section 11-156-3(a), Hawai´i Administrative Rules, provides in pertinent part: "The diseases listed in Exhibit A are declared by the director to be communicable and dangerous to the public health . . . ." _____ is listed in Exhibit A. See Exhibit A, entitled "Disease Reporting Requirements for Health Care Providers in Hawaii (January, 2001) attached hereto and incorporated herein by reference.

[23] "Dangerous disease" means any illness or health condition that might pose a substantial risk of a significant number of human fatalities or incidents of permanent or long-term disability. HRS §§ 325-5, 325-20 (2004).

can be protected, due to the transmissible nature of the communicable or dangerous disease and the lack of preventive measures, or due to the failure by the Respondent to accept or practice less restrictive measures to prevent disease transmission.

WHEREFORE, the Petitioner respectfully prays:

1. That this Court make the findings that probable cause exists to believe:

A) that the Respondent is reasonably believed to have been exposed to or known to have been infected with a communicable or dangerous disease and

B) that quarantine is the least restrictive means by which the public's health, safety, and welfare can be protected, due to the transmissible nature of the communicable or dangerous disease and the lack of preventive measures, or due to the failure by the Respondent to accept or practice less restrictive measures to prevent disease transmission,

2. That the Court issue an Ex Parte Order for Quarantine of the Respondent; and

3. That the Court order such other and further relief as it may deem just and proper.

DATED: Honolulu, Hawai´i, January 3, 2006.

_____

For Petitioner
Department of Health

IN THE CIRCUIT COURT OF THE FIRST CIRCUIT

STATE OF HAWAI´I

In the Matter of the Quarantine of JOHN DOE, Respondent. _____	Civil No. _____ (Special Proceeding) DECLARATION OF PAUL EFFLER, M.D.;

DECLARATION OF PAUL EFFLER, M.D.

1. Declarant is a physician licensed to practice medicine in the State of _____.

2. Declarant is employed by the State of Hawai´i, Department of Health as State Epidemiologist.

*****Centers for Disease Control and Prevention, United States Department of Health and Human Services, and the Department of Health as Chief/TB Controller, Tuberculosis Control Program, Communicable Disease Division, State of Hawai´i.

3. Upon information and belief, Declarant reasonably believes that Respondent John Doe has been exposed to or is known to be infected with _____ based upon the following:

a. On or about January 3, 2006, Respondent was present aboard the cruise ship S.S. ____/Respondent's blood test for ____ came back positive;

b. On or about January 3, 2006, the cruise ship S.S. ____ experienced an outbreak of _____ and Respondent is believed to have come into

contact with other infected persons whose blood tests have come back positive for _____;

c. _____ is a communicable or dangerous disease as evidenced by

_____

_____

_____;

4. Quarantine is the least restrictive means by which the public's health, safety, and welfare can be protected for the following reasons:

a. _____ may be transmitted by _____

_____;

b. There are no known preventative measures that would prevent disease transmission other than quarantine/Upon information and belief, Respondent has failed to accept or practice less restrictive measures such as _____ to prevent disease transmission;

5. The Respondent was quarantined without first obtaining a written ex parte order of quarantine from the Court because any delay in the quarantine of the Respondent would pose an immediate threat to the public health because

_____

_____

_____

_____; and

6. Attached is a true and correct copy of Exhibit A, entitled "Disease Reporting Requirements for Health Care Providers in Hawaii (January, 2001)."

I, Paul Effler, M.D., do declare under penalty of law that the foregoing is true and correct.

DATED: Honolulu, Hawai´i, January 3, 2006.

_____

PAUL EFFLER, M.D.

IN THE CIRCUIT COURT OF THE FIRST CIRCUIT

STATE OF HAWAI´I

In the Matter of the Quarantine of JOHN DOE, Respondent. _____	Civil No. _____ (Special Proceeding) EX PARTE ORDER FOR QUARANTINE

EX PARTE ORDER FOR QUARANTINE

Upon review of the Department of Health's Petition for an Ex Parte Order for Quarantine and the Declaration of Paul Effler, M.D., the Court finds that probable cause exists to believe that:

1. Respondent John Q. Public is reasonably believed to have been exposed to or known to have been infected with _____, a communicable or dangerous disease as defined in sections 325-8 or 325-20, Hawai´i Revised Statutes; and

2. Quarantine is the least restrictive means by which the public's health, safety, and welfare can be protected, due to the transmissible nature of the communicable or dangerous disease and the lack of preventive measures, or due to the failure by the Respondent to accept or practice less restrictive measures to prevent disease transmission; specifically, _____ is transmissible by _____/Respondent has failed to accept or practice the less restrictive measures of _____;

NOW THEREFORE, IT IS HEREBY ORDERED that:

1. The Department of Health's Petition for an Ex Parte Order for Quarantine is granted;

2. The Respondent, currently quarantined under the provisions of subsection 325-8(f), Hawai´i Revised Statutes, as amended, shall continue to be quarantined at _____ [location] until discharged by the Director of Health or by order of the Court;

3. The Respondent shall have the right to a court hearing to contest this Ex Parte Order for Quarantine. If the Respondent, the Respondent's guardian ad litem, or the Respondent's counsel requests a hearing in writing, the hearing shall be held within fourteen days of the filing of the request with the Circuit Court in the Circuit in which the Respondent is quarantined. A request for hearing shall not alter or stay the order for quarantine of the Respondent. The Department of Health shall be notified of the request for hearing at least ten days before the hearing. At the hearing, the Department of Health shall have the burden of proving findings 1 and 2 (above) by clear and convincing evidence;

4. If the personal appearance before the Court of the Respondent is determined by the Director of Health to pose a threat to individuals at the proceeding and the Respondent does not waive the right to attend the proceeding, the Court shall appoint a guardian ad litem, pursuant to article V of chapter 560, Hawai´i Revised Statutes, to represent the Respondent throughout the proceeding or shall hold the hearing via any means that allow all parties to participate as fully and safely as is reasonable under the circumstances;

5. Upon written request by the Respondent, the Court shall appoint counsel at state expense to represent the Respondent or groups of individuals who are or who are about to be quarantined pursuant to section 325-8, Hawai´i Revised Statutes, and who are not otherwise represented by counsel. Adequate means of communication between the Respondent or groups and their counsel or guardians ad litem shall be provided;

6. On or after thirty (30) days following the issuance of this Ex Parte Order for Quarantine or a hearing as provided in section 325-8, Hawai´i Revised Statutes, the Respondent may request in writing a court hearing to contest the continued quarantine. The hearing shall be held within fourteen days of the filing of the request with the Circuit Court of the Circuit in which the Respondent is quarantined. A request for hearing shall not alter or stay the order for quarantine of the Respondent. The Department of Health shall be notified of the request for hearing at least ten days before the hearing. At the hearing, the Department of Health shall have the burden of proving the findings 1 and 2 (above) by clear and convincing evidence;

7. The Respondent may request a hearing regarding the treatment and the terms and conditions of quarantine. Upon receipt of the written request, the Court shall set a hearing within fourteen days of the filing of the request. The request for hearing shall not alter or stay the order for quarantine of the Respondent. The Department of Health shall be notified of the request for a hearing at least ten days before the hearing. If, upon a hearing, the Court finds that the treatment afforded the Respondent or the terms or conditions of quarantine are not in compliance with subsection 325-8(b), Hawai´i Revised Statutes, the Court may fashion remedies reasonable under the circumstances and consistent with chapter 325, Hawai´i Revised Statutes; and

8. A copy of this Ex Parte Order for Quarantine shall be served on the Respondent by United States mail, first class postage prepaid.

DATED: Honolulu, Hawai´i, _____

_____
JUDGE OF THE ABOVE-ENTITLED COURT

IN THE CIRCUIT COURT OF THE FIRST CIRCUIT

STATE OF HAWAI´I

In the Matter of the Quarantine of JOHN DOE, Respondent. _____	Civil No. _____ (Special Proceeding) CERTIFICATE OF SERVICE

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing Department of Health's Petition for an Ex Parte Order for Quarantine will be served on the persons listed below by U.S. Mail, postage prepaid, upon its return from Court on or about January 3, 2006:

Respondent John Doe

Honolulu, Hawai´i 96

DATED: Honolulu, Hawai´i, January 3, 2006.

_____
BLAIR GOTO
Deputy Attorney General
Attorney for Department of Health